



Dart Hawkesbury  
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada  
Tel (613) 632-5200

## Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit
P0039632	ACI001-VC	3	1	Net 30	M1018S.375	M1018S.375 : AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W NO SCALE ON SHEET MINIMUM YIELD TENSILE STRENGTH= 28KSI MINIMUM ULTIMATE TENSILE STRENGTH= 42KSI COLD ROLLED receive sf				16	4/30/2018	16		S066318	Stock	4/28/2018	\$ 13.83 / sf
		4			M6061T6R1.000	Round Bar 1.00" : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft				40		40		S066319	Stock	4/28/2018	\$ 2.74 / ft
		5			M4140H-R1.250	4140 Round Bar 1.250 : AISI 4140H ROUND BAR PER AISI 4140 OR ASTM A304-02/-A-434-BC/-A193-03-GRADE B7/-A29-03/-A322-91 OR UNS#-G41400 MINIMUM ULTIMATE TENSILE STRENGTH=100 KSI MINIMUM YIELD TENSILE STRENGTH=66KSI receive ft				20		18		S066320	Stock	4/28/2018	\$ 6.92 / ft
		6			M6061T6S0.750X06.500	6061T6 Sheet 0.750 X 6.500 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft				12		12		S066321	Stock	4/28/2018	\$ 30.33 / ft
		7			M303R1.000	303 Round Bar 1.00 : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE:304/316 NOT ACCEPTABLE receive ft						12		S066322	Stock	4/28/2018	\$ 8.44 / ft
		9			M303R0.750	303 Round Bar 0.750 : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE:304/316 NOT ACCEPTABLE receive ft						12		S066323	Stock	4/28/2018	\$ 4.85 / ft
		10			M5052H32S.050	5052-H32 .050 Sheet : MATERIAL: 5052-H32 ALUMINUM SHEET AS PER QQ-A-250/8 OR AMS-QQ-A-250/8 OR AMS 4016 OR ASTM B209 receive sf				40		40		S066324	Stock	4/28/2018	\$ 2.63 / sf
		11			M5052H32S.080	5052-H32 .080 Sheet : MATERIAL: 5052-H32 ALUMINUM SHEET AS PER QQ-A-250/8 OR AMS-QQ-A-250/8 OR AMS 4016 OR ASTM B209 receive sf				32		32		S066325	Stock	4/28/2018	\$ 4.18 / sf
		12			M2024T3S.063	2024-T3 .063 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf				144		144		S066326	Stock	4/28/2018	\$ 9.87 / sf

4/28/2018

Print

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit
		13			M304B0.625X3.000	304 Bar .625 X 3.00 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft				12		13		S066327	Stock	4/28/2018	\$ 36.75 / ft
Total:										340		339					

Plex 4/28/2018 7:53 AM Dart.Dubois.Pascal



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# **PURCHASE ORDER** **PO039632**

**Supplier:** ACI001-VC  
Acier Ouellette Inc.  
935 Boul. Du Havre  
Valleyfield  
QC  
J6S 5L1 Canada  
Phone: 800 667 4248  
Fax: 450 377 5696

**PO No:** PO039632

**PO Date:** 4/18/18

**Due Date:** 4/20/18

**Purchase Order  
Revision:**

**Revision Date:**

**Ship-To Contact:** Lavoie, Chantal  
clavoie@dartaero.com

**E-MAILED**  
**APR 18 2018**

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground

**Pymt Terms:** Net 30

**Freight Terms:**

**Special Comments:** quote: SOU0098788

## Items

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	M6061T6S.625		6061-T6 .625 Sheet : MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 receive sf	Firmed	4/20/18	16 sf	0 sf	16 sf	\$34.98/sf	\$559.68
2	M6061T6S.250		6061T6 Sheet .250 : MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209 receive sf	Firmed	4/20/18	32 sf	0 sf	32 sf	\$12.295625/sf	\$393.46
3	M1018S.375		M1018S.375 : AISI 1010-1025 OR ASTM A36/A366/A1008 OR CSA G40-21, 38W/44W/50W/60W/70W NO SCALE ON SHEET MINIMUM YIELD TENSILE STRENGTH= 28KSI MINIMUM ULIMATE TENSILE STRENGTH= 42KSI COLD ROLLED receive sf	Firmed	4/20/18	16 sf	0 sf	16 sf	\$13.8275/sf	\$221.24

Items										
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
4	M6061T6R1.000		Round Bar 1.00" : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR AS PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117 4128/4115/4116 OR QQ-AA-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B221 OR ASTM B221 receive ft	Firmed	4/20/18	40 ft	0 ft	40 ft	\$2.7375/ft	\$109.50
5	M4140H-R1.250		4140 Round Bar 1.250 : AISI 4140H ROUND BAR PER AISI4140OR ASTM A304-02/-A-434-BC/-A193-03-GRADE B7/-A29-03/-A322-91 OR UNS#-G41400 MINIMUM ULTIMATE TENSILE STRENGTH=100 KSI MINIMUM YIELD TENSILE STRENGTH=66KSI receive ft	Firmed	4/20/18	20 ft	0 ft	20 ft	\$6.921666/ft	\$138.43
Line Item Note NOTE CUT ROUND BAR IN HALF										
6	M6061T6S0.750X06.500		6061T6 Sheet 0.750 X 6.500 : MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR PER QQ-A-225/8 OR AMS-QQ-A-225/8 OR AMS 4117/4128/4115/4116 OR QQ-A-200/8 OR AMS-QQ-A-200/8 OR AMS 4160 OR ASTM B211 OR ASTM B221 receive ft	Firmed	4/24/18	12 ft	0 ft	12 ft	\$30.3275/ft	\$363.93
7	M303R1.000		303 Round Bar 1.00 : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE:304/316 NOT ACCEPTABLE receive ft	Firmed	4/20/18	12 ft	0 ft	12 ft	\$8.4358333/ft	\$101.23
8	M303B1.000X1.000		M303B1.000 X 1.000 : MATERIAL: AISI 303 SS BAR AS PER ASTM A582 NOTE: AISI 304/316 NOT ACCEPTABLE receive ft	Firmed	5/2/18	12 ft	0 ft	12 ft	\$39.10/ft	\$469.20
9	M303R0.750		303 Round Bar 0.750 : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE:304/316 NOT ACCEPTABLE receive ft	Firmed	4/20/18	12 ft	0 ft	12 ft	\$4.8508333/ft	\$58.21

Items										
Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
10	M5052H32S.050		5052-H32 .050 Sheet : MATERIAL: 5052-H32 ALUMINUM SHEET AS PER QQ-A-250/8 OR AMS-QQ-A-250/8 OR AMS 4016 OR ASTM B209 receive sf	Firmed	4/24/18	40 sf	0 sf	40 sf	\$2.6275/sf	\$105.10
							40			DAS 11 9-89 APR 28 2018
11	M5052H32S.080		5052-H32 .080 Sheet : MATERIAL: 5052-H32 ALUMINUM SHEET AS PER QQ-A-250/8 OR AMS-QQ-A-250/8 OR AMS 4016 OR ASTM B209 receive sf	Firmed	4/20/18	32 sf	0 sf	32 sf	\$4.175625/sf	\$133.62
							32			DAS 11 9-89 APR 28 2018
12	M2024T3S.063		2024-T3 .063 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf	Firmed	4/25/18	144 sf	0 sf	144 sf	\$9.8660416/sf	\$1,420.71
							144			DAS 11 9-89 APR 28 2018
13	M304B0.625X3.000		304 Bar .625 X 3.00 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	4/25/18	12 ft	0 ft	12 ft	\$36.745833/ft	\$440.95
							13			DAS 11 9-89 APR 28 2018
14	M304S16GA		304/316 Sheet .063 : MATERIAL: AISI 304/316 SS SHEET ANNEALED AS PER MIL-S-5059 OR AMS 5513 (304) OR AMS 5524 (316) OR ASTM A240 OR ASME SA240 receive sf	Firmed	4/20/18	160 sf	0 sf	160 sf	\$6.508625/sf	\$1,041.38
Grand Total:										\$5,556.64

## Order Notes

## Procurement Quality Clauses

A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)  
A026 certification of material conformance  
A041 quality management system  
A042 dart notification by supplier  
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.



Plex 4/18/18 7:40 AM dart.lavoie.chantal



ACIER OUELLETTE INC.

935, Boul. du Hâvre  
Sahaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

DELIVERY - CLIENT

Copy CO00085953

**Billed to**

DART AEROSPACE LTD  
1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

**Shipped to**

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Instruction F-M

Delivery Route 5

Page 1

Credit Terme

Net 30 Days

Salesman

Carrier

Processed by

Your order N°

Delivery date

2018/04/26

PO039632

Denis Quenneville

OUELLETTE VALLEYFIELD

Customer N°

CL10001056

Date

2018/04/25

**Product Description**

1 ROUND 4140 ANNEALED 1 1/4 (R)  
R4140-114A 4895

1 X  
HEAT: 177658  
LIGNE 5

Weight

Qty

U/M

83.44

20.00

PL \$CLB

CMD

PCS NB

EXP

B/O

IN

I

S

C

OUT

DAS

11

APR 28 2018 8:59

**Conditions :**

All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Total Weight (Lbs) : 83.44

NIR : R-109516-6

Prepared By :

Verified By :

Delivered By :

Time

Y

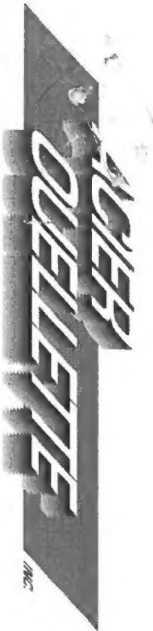
M

D

Customer's Signature

Date

Total (\$CAD)



# DELIVERY - CLIENT

Customer N°

Customer N°

CLI0001056

Date

2018/04/18

Delivery date

2018/04/27

Your order N°

PO039632

Processed by

Denis Quenneville

Salesman

Carrier

OUELLETTE VALLEYFIELD

Credit Terme

Net 30 Days

## Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

## Shipped to

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Instruction F-M

Delivery Route 5

Page

1

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
1 PLATE 44W 3/8 RANDOM P44-38-V 4116 <i>1 X 4' X 4' LINE 3 HEAT: 716657 COUPE AU FEU FEU</i>	244.80	16.00	PI2_\$CLB		14 4'x4'		16'				DAS 11 9-89
2 ROUND ALU 1 6061-T6 * RAL-1 5141 <i>2 X 20' CUT IN HALF LINE 4 HEAT: 36585</i>	37.00	40.00	PI_\$CLB		40 10'		40'				DAS 11 9-89
3 ALU PLATE 3/4 6061-T651 RANDOM PAL-346061-V 4280 <i>1 X 6 1/2" X 144" ac15456-th-2018/04/25 LINE 6</i>	70.46	6.50	PI2_\$CLB		14 6 1/2" x 144"		12'				DAS 11 9-89

NIR : R-109516-6

Copy

CO00084686





**ACIER OUELLETTE INC.**

935, Boul. du Havre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**DELIVERY - CLIENT**

**Copy**

C000084686

Customer N°

CL10001056

Date

2018/04/18

Delivery date

2018/04/27

Your order N°

PO039632

Processed by

Denis Quenneville

Salesman

Carrier

OUELLETTE VALLEYFIELD

Credit Terme

Net 30 Days

**Billed to**

DART AEROSPACE LTD

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

**Shipped to**

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Instruction F-M

Delivery Route 5

Page

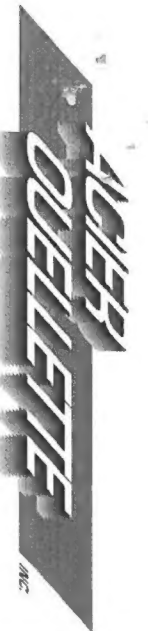
2

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
HEAT: 12-5596 4 ROUND SS 1 303 (R) RSS-1303 8519 <i>1 X 12' R/L LINE 7 HEAT: 252X</i>	32.04	12.00	PL_\$CLB		14 12/1 <sup>n</sup>		12'		APR 28 2018		DAS 11 9-89
5 SQUARE SS 1 SS303 NS CSS-1303 9512 <i>1 X ac15457-JG-2018/05/02 LINE 8</i>	40.80	12.00	PL_\$CLB			1X					
6 ROUND SS 3/4 303 (R) RSS-34303 5761 <i>1 X 12' R/L LINE 9 HEAT: 409862</i>	18.02	12.00	PL_\$CLB		1X 12/1 <sup>n</sup>		12'		APR 28 2018		DAS 11 9-89

NIR : R-109516-6

Next Page...





# DELIVERY - CLIENT

Customer N°

Date

Delivery date

Your order N°

Processed by

Salesman

Carrier

Credit Terme

Page

CL10001056

2018/04/18

2018/04/27

PO039632

Denis Quenneville

OUELLETTE VALLEYFIELD

Net 30 Days

3

## Billed to

DART AEROSPACE LTD

1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

## Shipped to

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Instruction F-M

Delivery Route 5

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only					
				CMD	EXP	B/O	IN	I	S	C	OUT	
7 ALU SHEET .051 (16G) 5052-H32 (4 X 10) FEAL-0514105052 3140 <i>1 X 4' X 10' AC15463-RY-2018/04/23 LINE 10 HEAT: GFB1712W50264</i>	28.72	40.00	PI2_\$CLB		1X		2 40 P12				APR 28 2018 DAS 11 9-89	
8 ALU SHEET .081 (12G) 5052-H32 (4 X 8) FEAL-081485052 3198 <i>1 X 4' X 8' AC15459-RY-2018/04/23 LINE 11 HEAT: 7111704231-1</i>	36.51	32.00	PI2_\$CLB		1X		0 32 m				APR 28 2018	
9 ALU SHEET .064 (14G) 2024-T3 (4 X 12) FEAL-0644122024 3166 <i>3 X 4' X 12' AC15460-SA-2018/04/23 LINE 12 HEAT: 241481B1</i>	129.74	144.00	PI2_\$CLB		3X		3 144 A2				APR 28 2018 DAS 11 9-89	

NIR : R-109516-6

Copy

CO00084686

**ACIER OUELLETTE INC.**

935, Boul. du Hâvre  
Saliaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**DELIVERY - CLIENT****Copy** CO00084686**Billed to**

DART AEROSPACE LTD  
1270, ABERDEEN ST.  
HAWKESBURY, Ontario, K6A 1K7

**Shipped to**

, Ontario,

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Instruction F-M

Delivery Route 5

Customer N° CL10001056  
Date 2018/04/18  
Delivery date **2018/04/27**  
Your order N° PO039632  
Processed by Denis Quenneville  
Salesman  
Carrier OUELLETTE VALLEYFIELD  
Credit Terme Net 30 Days  
Page 4

Product Description	Weight	Qty	U/M	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
10 FLAT SS 5/8 X 3 SS304 NS FSS-583 9221 1 X AC15458-SM-2018/04/23 LINE 13 HEAT: 56170113	76.56	12.00	PL_\$CLB		14 13		13			APR 28 2018	DAS 11 9:00
11 SHEET SS 16G SS304-2B (4 X 8) FESS-16G483042B 3419 5 X 4' X 8' LINE 14	420.00	160.00	PI2_\$CLB			54					
12 PALETTE PALETTE 7573		1.00	UN_\$UN								

Total Weight (Lbs) : 1 134.65

NIR : R-109516-6

**Conditions :**

All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.

Prepared By :

Verified By :

Delivered By : Time

Customer's Signature

Date

Total (\$CAD)

DATE : 18/10/2017  
 CERTIFICATE NO : 71612611  
 PAGE NO : 1

LOT NO: 1      NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE      GRAIN PRACTICE

## PRODUCT INFORMATION

## МЕХАНИКА

80-2-101

## CHEMICAL COMPOSITION CAST ANALYSIS

TICKET NO	HEIGHT (MM)	HEAT NO	COIL	P.S. OF	S.A.M. POS	TENSILE YIELD STRENGTH	TENSILE STRENGTH	EL	BEND 180°	AG	V.T.	HARDNESS	IMPACT TEST POSITION	AVERAGE	HIGH TEMP	C	MN	P	S	SI	AL	CU	NI	V	N	
0237041613	8.080		10230223410-01		7	416.8	569.8	34					1	2	3		0.197	1.197	0.016	0.006	0.197	0.041	0.024	0.032	0.071	48
		725111	125111410001101		TT	416.8	569.8	34									0.197	1.197	0.016	0.006	0.197	0.041	0.024	0.032	0.071	48
		725111	125111410001201		TT	357.2	560.9	34									0.197	1.197	0.016	0.006	0.197	0.041	0.024	0.039	0.071	42
		725111	125111410002201		TT	357.2	560.9	34									0.197	1.197	0.016	0.006	0.197	0.041	0.024	0.039	0.071	48
		725111	125111410003101		TT	46.8	569.8	34									0.197	1.197	0.016	0.006	0.197	0.041	0.024	0.039	0.071	48
		725111	125111410004101		TT	397.2	560.9	34									0.197	1.197	0.016	0.006	0.197	0.041	0.024	0.039	0.071	48
		725111	125111410004201		TT	397.2	560.9	34									0.197	1.197	0.016	0.006	0.197	0.041	0.024	0.039	0.071	48
0237041706	1.150		10230224551010		12	416.8	569.8	34									0.197	1.197	0.016	0.006	0.197	0.041	0.024	0.039	0.071	48
		725111	125111410003201		TT	416.8	569.8	34									0.197	1.197	0.016	0.006	0.197	0.041	0.024	0.039	0.071	48
0237042271	14.090		10230225311010		12	425.6	566.8	32									0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
		716556	1716556403004101		TT	425.6	566.8	32									0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
		716556	1716556403004201		TT	422.7	573.7	34									0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
		716556	1716556404001101		TT	422.7	573.7	34									0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
		716556	1716556404001201		TT	425.6	566.8	32									0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
		716556	1716556404002201		TT	425.6	566.8	32									0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
		716556	1716556404003101		TT	422.7	573.7	34									0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
		716556	1716556404003201		TT	422.7	573.7	34									0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
		716556	1716556404004101		TT	425.6	566.8	32									0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49

WE THE MANUFACTURER HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF CSA G40 21-13 / ASTM A572-15 300W/350M / G550 TYPE 2 (E888M 3246) WITH SATISFACTORY RESULTS.



ERDEMİR ÇELİK FABRİKALARI T.A.Ş.  
OUTSTANDING CAPITAL : 3.500.000.000 TL  
PRODUCTION PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 : 2004 TYPE 3.1

DATE : 18/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 2

CUSTOMER : MİTİT STEEL  
ORDER NO : 78603204709  
DIMENSIONS, mm : 9.530 X 2438 X 6035 ( 0.375 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40.21-13 / ASTM A572-15 300M/350M / GR50 TYPE 2(ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LKX HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO. : NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL										CHEMICAL COMPOSITION, CAST ANALYSIS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
TICKET NO	WEIGHT (MT)	HEAT NO	COIL or PLATE NO	P.S. or P.P.	SAM POS	TENSILE YIELD N/MM2	TENSILE STRENGTH N/MM2	TEST EL 50	BEND or TEST BH	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.

WE, THE MANUFACTURER, HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OVEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF CSA G40.21-13 / ASTM A572-15 300M/350M / GR50 TYPE 2(ERDEMİR 3246) WITH SATISFACTORY RESULTS



NOTE: T Top, M Middle, E End, T Transverse, L Longitudinal, P S Piece of Steel, P P Piece of Plate  
HEADS Number (Standard Head Office) 0352-0026-4560-0023 Trade Registry Number (Istanbul Department) 50559 Trade Registry Number (Eregli Department) 15707212  
Head Office Istanbul Barbaos Mah Arçık Sok No 6 34746 Alagehir İSTANBUL - TURKEY

www.erdemir.com.tr

ERDEMİR VE ÇELİK FABRİKALARI T.A.Ş.  
OUTSTANDING CAPITAL : 3.500.000.000 TL  
PRODUCTION PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 : 2004 TYPE 3.1

DATE : 16/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 3

CUSTOMER : MİTİT STEEL  
ORDER NO : 71603204709  
DIMENSIONS, mm : 9.530 X 2438 X 6096 ( 0.375 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40.21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2(ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LKX : HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO:1 NO 'SECURITY COUPONS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL PROPERTIES										CHEMICAL COMPOSITION, CAST ANALYSIS													
TICKET NO/WEIGHT (MT)	HEAT NO	COIL OR PLATE NO	P.S. OR P.P.	ISAM POS	TENSILE STRENGTH N/MM2	TENSILE TEST EL. N/MM2	BEND OR TEST BH	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	IMPACT TEST, JOULE POSITION : 1 2 3	AIR TEMP. °C	HIGH TEMP. °C	C	MN	P	S	SI	AL	CU	NI	V	N	
0237042277 14,050	716556	716556403001201	TT	422.7	573.7	34											0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49	
	716556	716556403002101	TT	425.6	566.8	32											0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49	
	716556	716556403002201	TT	425.6	566.8	32											0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49	
	716556	716556403003101	TT	422.7	573.7	34												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556403003201	TT	422.7	573.7	34												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556403004101	TT	425.6	566.8	32												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556403004201	TT	425.6	566.8	32												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556407001101	TT	422.7	573.7	34												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556407001201	TT	422.7	573.7	34												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556407002101	TT	425.6	566.8	32												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
0237042277 14,050	716556	716556407002201	TT	425.6	566.8	32												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556407003101	TT	422.7	573.7	34												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556407003201	TT	422.7	573.7	34												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556407004101	TT	425.6	566.8	32												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556407004201	TT	425.6	566.8	32												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556408001101	TT	422.7	573.7	34												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556408001201	TT	422.7	573.7	34												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556408002101	TT	422.7	573.7	34												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556408002201	TT	422.7	573.7	34												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
	716556	716556408003101	TT	425.6	566.8	32												0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49

WE (THE MANUFACTURER) HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF CSA G40.21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2(ERDEMİR 3246) WITH SATISFACTORY RESULTS.



NOTE : 1 For Material, E-End : Transverse, L:Longitudinal, P:S Piece of Plate  
KEMİS : Header (Header Head Office) : 0352-0006 4265 0020, Trade Registry : 'Merkezi (İstanbul) Departmanı' : 30689, Trade Registry Number : (Ergül) : Departmanı : 15747272  
Head Office : İstanbul : Barbaros Naf. Arslan Sok. No. 5 : 34746 Alibeyli, İSTANBUL - TÜRKİYE

www.erdemir.com.tr

DATE : 18/10/2017  
 CERTIFICATE NO : 71612611  
 PAGE NO : 4

LOT NO. 1 NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

WE, THE MANUFACTURER, HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF ASTM A572-15 300W/350M / G50 TYPE 2 (PERMITS 3246) WITH SATISFACTORY RESULTS

www.bv.com 1-800-445-4455



ERDEMİR DEMİR VE ÇELİK FABRİKALARI T.A.Ş.  
OUTSTANDING CAPITAL : 3.500.000.000 TL  
PRODUCTION PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 : 2004 TYPE 3.1

DATE : 18/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 5

CUSTOMER : WIRTH STEEL  
ORDER NO : 78603204709  
DIMENSIONS : 9.530 X 2438 X 6096 (0.375 X 96 X 240 INCH)  
STANDARD & GRADE : CSA G40 21-13 / ASTM A572-15 300W/350W / GRADE TYPE 2 (ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LKX : NOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO: 1 NO MERCURY COUPOONS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL PROPERTIES										CHEMICAL COMPOSITION, CAST ANALYSIS														
TICKET NO/WEIGHT (MT)	HEAT NO	COIL or PLATE NO	P.S. or P.P.	TENSILE TEST	YIELD STRENGTH	TENSILE % EL.	BEND or TEST	VAL.	VAL.	VIT or HARDNESS	TEST POSITION	1	2	3	AVR	TEMP °C	YIELD N/MM2	C	MN	P	S	SI	AL	CU	NI	V	N	
023704228114.130	716556	716556/40300210	TT	425.6	566.8	32										10 198.1	187.0	0.017	0.005	0.175	0.031	0.022	0.045	0.073				45
	716556	716556/40300220	TT	425.6	566.8	32										10 198.1	187.0	0.017	0.005	0.175	0.031	0.022	0.045	0.073				45
	716556	716556/40300310	TT	422.7	573.7	34										10 198.1	187.0	0.017	0.005	0.175	0.031	0.022	0.045	0.073				49
	716556	716556/40300320	TT	422.7	573.7	34										10 198.1	187.0	0.017	0.005	0.175	0.031	0.022	0.045	0.073				49
	716557	716557/40100210	TT	438.4	574.7	32										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
	716557	716557/40100220	TT	438.4	574.7	32										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
	716557	716557/40100310	TT	425.6	562.9	34										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
	716557	716557/40100320	TT	425.6	562.9	34										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
	716557	716557/40100410	TT	438.4	574.7	32										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				45
	716557	716557/40100420	TT	438.4	574.7	32										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				45
	716557	716557/40200110	TT	425.6	562.9	34										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
	716557	716557/40200120	TT	425.6	562.9	34										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
716557	716557/40200210	TT	438.4	574.7	32										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				45	
716557	716557/40200220	TT	438.4	574.7	32										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				45	
716557	716557/40200310	TT	425.6	562.9	34										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49	
716557	716557/40200320	TT	425.6	562.9	34										10 187.1	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49	
716556	716556/40300410	TT	425.6	566.8	32										10 198.1	187.0	0.017	0.005	0.175	0.031	0.022	0.045	0.073				49	
716556	716556/40300420	TT	425.6	566.8	32										10 198.1	187.0	0.017	0.005	0.175	0.031	0.022	0.045	0.073				49	

WE, THE MANUFACTURER, HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF CSA G40 21-13 / ASTM A572-15 300W/350W / GRADE TYPE 2 (ERDEMİR 3246) WITH SATISFACTORY RESULTS



NOTE: 1 Top, Middle, End, Transverse, Longitudinal, P-S Piece of Slice, P-P Piece of Plate  
MESSIS Number: (Istanbul Head Office) 0352-0006-4200-0220, Trade Registry Number: (Istanbul Department) 30655, Trade Registry Number: (Erzurum Department) 15741/12  
Head Office: Istanbul, Barbaros Mah. Aidi Sok. No 6 34146 Alsagimir ISTANBUL - TURKEY



www.erdemir.com.tr



EĞELİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş.  
OUTSTANDING CAPITAL : 3.500.000.000 TL  
PRODUCTION PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 : 2004 TYPE 3.1

DATE : 16/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 6

CUSTOMER : WIRTH STEEL  
ORDER NO : 78603204709  
DIMENSIONS, mm : 9.530 X 2438 X 6098 ( 0.375 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40.21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2 (ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LUX : HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO 1 NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL				CHEMICAL COMPOSITION, CAST ANALYSIS																				
TICKET NO/WEIGHT (MT)	HEAT NO	COIL OR PLATE NO	P.S. OR P.P.	ISAM POS	TENSILE TEST YIELD N/MM2	TENSILE TEST EL N/MM2	BEND 180° VAL.	AG VAL.	Y/T OR HARDNESS	IMPACT-TEST, Joule POSITION 1 2 3	AIR TBM 'C	HIGH TBM 'C	C %	MN %	P %	S %	SI %	AL %	CU %	NI %	V %	N %	PPM					
716556	71655641000110	TT	422.7	573.7	34	422.7	573.7	34	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
716556	71655641000120	TT	422.7	573.7	34	422.7	573.7	34	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
716556	71655641000210	TT	425.6	566.8	32	425.6	566.8	32	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
716556	71655641000310	TT	422.7	573.7	34	422.7	573.7	34	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
716556	71655641000320	TT	422.7	573.7	34	422.7	573.7	34	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
716556	71655641000410	TT	425.6	566.8	32	425.6	566.8	32	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
716556	71655641000420	TT	425.6	566.8	32	425.6	566.8	32	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49	0.198	1.187	0.017	0.005	0.175	0.031	0.022	0.045	0.073	49
716557	71655740100110	TT	425.6	562.9	34	425.6	562.9	34	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49
716557	71655740100120	TT	425.6	562.9	34	425.6	562.9	34	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49
02304228614.1001	71655740200410	TT	438.4	574.7	32	438.4	574.7	32	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49
716557	71655740200420	TT	438.4	574.7	32	438.4	574.7	32	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49
716557	71655740300110	TT	425.6	562.9	34	425.6	562.9	34	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49
716557	71655740300120	TT	425.6	562.9	34	425.6	562.9	34	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49
716557	71655740300210	TT	438.4	574.7	32	438.4	574.7	32	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49
716557	71655740300220	TT	438.4	574.7	32	438.4	574.7	32	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49
716557	71655740300310	TT	425.6	562.9	34	425.6	562.9	34	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49
716557	71655740300320	TT	425.6	562.9	34	425.6	562.9	34	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49
716557	71655740300410	TT	438.4	574.7	32	438.4	574.7	32	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49	0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49

WE, THE MANUFACTURER, HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF  
CSA G40.21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2 (ERDEMİR 3246) WITH SATISFACTORY RESULTS.



NOTE : Top, Middle, End, Transverse, Longitudinal, P.S. Piece of Slice, P.P. Piece of Plate  
WESSIS Number (Istanbul Head Office) : 0352-0006-4260-0020, Trade Registry Number (Istanbul Department) : 30653; Trade Registry Number (Eğeli Department) : 1574777  
Head Office: Istanbul: Barbaros Ma. Ağız Sok. No: 6 34746 Ateşler İSTANBUL - TURKEY

www.erdemir.com.tr

ERDEMİR ÇELİK FABRİKALARI T.A.Ş.  
OUTSTANDING CAPITAL : 3.500.000.000 TL  
PRODUCTION PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 - 2004 TYPE 3.1

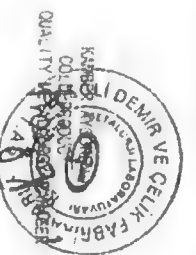
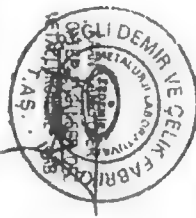
DATE : 18/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 7

CUSTOMER : WIRTH STEEL  
ORDER NO : 78603204709  
DIMENSIONS, mm : 9 530 X 2438 X 6096 ( 0.375 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40-21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2 (ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LKX - HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO:1 NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION										MECHANICAL PROPERTIES										CHEMICAL COMPOSITION, CAST ANALYSIS									
TICKET NO	WEIGHT (MT)	HEAT NO	COIL OR PLATE NO	P.S. OR P.P.	ISAM POS	TENSILE YIELD STRENGTH N/MM2	TENSILE % EL	BEND TEST 180°	AG VAL.	VIT OR VAL.	HARDNESS	MARKER TEST POSITION	1	2	3	AVR	TEMP °C	HIGH YIELD N/MM2	C	MN	P	S	SI	AL	CU	NI	V	N	PPM
0237042296111-500	716557	716557	71655740300420	TT	438.4	574.7	32										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740400110	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740400120	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740400210	TT	438.4	574.7	32										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740400220	TT	438.4	574.7	32										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740400310	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740400320	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740600410	TT	438.4	574.7	32										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740600420	TT	438.4	574.7	32										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740600510	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
0237042296114-080	716557	716557	71655740500310	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740500320	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740500330	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740500340	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740500350	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740500360	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740500370	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740500380	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740500390	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49
		716557	71655740500400	TT	425.6	562.9	34										10.187	242.0	0.020	0.004	0.193	0.043	0.021	0.043	0.074				49

WE, THE MANUFACTURER, HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF CSA G40-21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2 (ERDEMİR 3246) WITH SATISFACTORY RESULTS



Head Office: Middle East, T. Transverse, L. Longitudinal, P. S. Piece of Steel, P. P. Piece of Plate  
Head Office: 0322 6006 4260-7020, Trade Registry Number: 15374276  
Head Office: İstanbul, Barbaros Mah. Ardic Sok. No 6, 34745 Alışah / İSTANBUL, TÜRKİYE

www.erdemir.com.tr

ERDEMİR DEMİR VE ÇELİK FABRİKALARI T.A.Ş.  
OUTSTANDING CAPITAL : 3.500.000.000 TL  
PRODUCTION PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 : 2004 TYPE 3.1

DATE : 18/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 8

CUSTOMER : WIRTH STEEL  
ORDER NO : 71603204709  
DIMENSIONS, mm : 9.530 X 2438 X 6096 ( 0,315 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40.21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2 (ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LKX : HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO:1 NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL										CHEMICAL COMPOSITION, CAST ANALYSIS													
TICKET NO/WEIGHT (MT)	HEAT NO	COIL OR PLATE NO	P.S. OF P.P.	SAW POS	TENSILE TEST YIELD STRENGTH N/MM2	TENSILE TEST EL. %	BEND TEST 180°	AG. VAL.	Y/T OR A VAL.	HARDNESS	WELDED TEST POSITION	1	2	3	AIR TEM. °C	YIELD TEMP °C	C %	MN %	P %	S %	SI %	AL %	CU %	NI %	V %	N %	PPM
	716657	716657408002201	TT	438.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657408003101	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	45		
	716657	716657408003201	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	45		
	716657	716657408004101	TT	438.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657408004201	TT	438.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657407001101	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657407001201	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	702302295510101	121																								
	716657	716657407002101	TT	438.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657407002201	TT	438.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	45		
	716657	716657407003101	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657407003201	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657407004101	TT	438.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657407004201	TT	438.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657408001101	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657408001201	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657408002101	TT	438.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657408002201	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657408003101	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		
	716657	716657408003201	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49		

WE THE MANUFACTURER HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF  
CSA G40.21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2 (ERDEMİR 3246) WITH SATISFACTORY RESULTS.



NOTE: T.Tad. M.Middit. E. End. T. Transverse. L. Longitudinal. P.S. Piece of Steel. P.P. Piece of Plate  
ERDEMİR Nispetiye/İstanbul Head Office: 0212-0066-4259-3023. Trade Registry Nispetiye/İstanbul Department: 36559 Trade Registry Nispetiye/İstanbul Department: 157212  
Head Office: İstanbul. Barbaros Mah. Ardic Sok. No: 6 34746 Alışveriş / İSTANBUL - TURKEY

WWW.ERDEMIR.COM

ERDEMLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş.  
OUTSTANDING CAPITAL : 3.500.000.000 TL  
PRODUCTION PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 : 2004 TYPE 3.1

DATE : 18/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 5

CUSTOMER : WIRTH STEEL  
ORDER NO : 78603204709  
DIMENSIONS, mm : 9 530 X 2436 X 6036 ( 0,375 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40.21-13 / ASTM A572-15 300M/350M / GR50 TYPE 2(ERDEMİR 3245)  
PRODUCT TYPE & DEFINITION : LKX : HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO:1 NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL PROPERTIES										CHEMICAL COMPOSITION, CAST ANALYSIS													
TICKET NO	WEIGHT (MT)	HEAT NO	COIL OR PLATE NO	P.S. OR P.P.	ISAM POS	TENSILE STRENGTH N/MM2	TENSILE EL. %	BEND TEST BH	AG VAL.	VIT VAL.	IMPACT POSITION	ROUTE	HIGH TEMP YIELD °C	C %	MN %	P %	S %	SI %	AL %	CU %	NI %	V %	N %	PPM			
023704229912.860	716657	71665740800410	11	TT	438.4	574.7	32							0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665740800420	TT	438.4	574.7	32								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665740900110	TT	425.6	562.9	34								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665740900120	TT	425.6	562.9	34								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665740900210	TT	438.4	574.7	32								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665740900220	TT	438.4	574.7	32								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665740900310	TT	425.6	562.9	34								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665740900320	TT	425.6	562.9	34								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665740900410	TT	438.4	574.7	32								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665740900420	TT	438.4	574.7	32								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
023704220214.1001	716657	71665741001101	12	TT	425.6	562.9	34							0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665740500210	TT	438.4	574.7	32								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665740500220	TT	438.4	574.7	32								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665741100410	TT	438.4	574.7	32								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716657	71665741100420	TT	438.4	574.7	32								0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
0237058	727058	72705840100110	TT	427.6	573.7	32								0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45				
	727058	72705840100120	TT	427.6	573.7	32								0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45				
	727058	72705840100210	TT	413.8	567.6	32								0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45				

THE MANUFACTURER HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF  
CSA G40.21-13 / ASTM A572-15 300M/350M / GR50 TYPE 2(ERDEMİR 3245) WITH SATISFACTORY RESULTS.



Off: T Top M Middle E End T Transverse L Longitudinal P S Piece of Slice P P Piece of Plate  
EERIS Number (Istanbul Head Office): 0352-0009-4260-0020; Trade Registry Number (Istanbul Department): 50559, Trade Registry Number (Ereğli Department): 15721/272  
Head Office: Istanbul Barbaros Mah. Ardiç Sok. No: 6 34746 Alaşehir / İSTANBUL - TÜRKİYE



www.erdemir.com.tr

ERDEMİR ÇELİK FABRİKASI  
CUMHURİYET YOLU  
ÜRETİMİ PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 : 2004 TYPE 3.1

DATE : 16/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 10

CUSTOMER : MİTTEL  
ORDER NO : 78603204709  
DIMENSIONS : 9.530 X 2438 X 6095 ( 0.375 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40.21-13 / ASTM A572-15 300M/350M / GR50 TYPE 2 (ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LUK : HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO:1 NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL										CHEMICAL COMPOSITION, CAST ANALYSIS															
TICKET NO/WEIGHT (MT)	HEAT NO	COIL OR PLATE NO	P.S. OF P.P.	ISAN POS	TENSILE YIELD STRENGTH N/MM2	TENSILE TEST EL	BEND 90° VAL.	AG VAL.	VIT VAL.	HAZARD POSITION	1	2	3	AIR TEMP °C	HIGH TEMP °C	C	MN	P	S	SI	AL	CU	NI	V	N	PPM			
023704230514.0801	727058	72705840100220	TT	413.8	567.8	32										0.195	1.220	0.015	0.006	0.168	0.033	0.019	0.046	0.076	45				
	727058	72705840100310	TT	427.6	573.7	32										0.195	1.220	0.015	0.006	0.168	0.033	0.019	0.046	0.076	45				
	727058	72705840100320	TT	427.6	573.7	32										0.195	1.220	0.015	0.006	0.168	0.033	0.019	0.046	0.076	45				
	727058	72705840100410	TT	413.8	567.8	32										0.195	1.220	0.015	0.006	0.168	0.033	0.019	0.046	0.076	45				
	727058	72705840100420	TT	413.5	567.3	32										0.195	1.220	0.015	0.006	0.168	0.033	0.019	0.046	0.076	45				
	716557	71655740100210	TT	433.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655740100220	TT	433.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655740100310	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655740100320	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655740100410	TT	438.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655740100420	TT	438.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741003110	TT	425.6	562.3	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741003120	TT	425.6	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741003210	TT	435.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741003220	TT	438.4	574.7	32										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100310	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100320	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100330	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100340	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100350	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100360	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100370	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100380	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100390	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100400	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100410	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100420	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100430	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100440	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100450	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100460	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100470	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100480	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100490	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100500	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100510	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100520	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100530	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100540	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100550	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100560	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100570	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100580	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100590	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100600	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100610	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100620	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100630	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100640	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100650	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100660	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100670	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100680	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100690	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100700	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100710	TT	425.5	562.9	34										0.187	1.242	0.020	0.004	0.193	0.043	0.021	0.043	0.074	49				
	716557	71655741100720	TT	425.5																									



ERDEMİR DEMİR VE ÇELİK FABRİKALARI T.A.Ş.  
OUTSTANDING CAPITAL : 3.500.000.000 TL  
PRODUCTION PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 : 2004 TYPE 3.1

DATE : 18/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 12

CUSTOMER : MURAT STEEL  
ORDER NO : 78603204709  
DIMENSIONS, mm : 9.530 X 2438 X 6056 ( 0.375 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40 21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2 (ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LKX : HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO: 1  
FULLY KILLED AND FINE GRAIN PRACTICE  
NO MERCURY COMPOUNDS NO WELD REPAIR

PRODUCT INFORMATION				MECHANICAL										CHEMICAL COMPOSITION, CAST ANALYSIS												
TICKET NO/WEIGHT (MT)	HEAT NO	COIL NO or PLATE NO	P.S. or P.P.	ISAM POS	TENSILE TEST N/MM2	TENSILE % EL	BEND or BH	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.
0237042639/11.560	716653	171665340300220	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300310	TT	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300320	TT	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300410	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300420	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300430	TT	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300440	TT	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300450	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300460	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300470	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300480	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300490	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300500	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300510	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300520	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300530	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300540	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300550	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300560	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300570	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300580	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300590	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300600	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300610	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300620	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300630	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300640	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300650	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300660	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300670	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300680	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300690	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300700	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300710	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300720	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300730	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300740	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300750	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300760	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300770	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300780	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300790	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300800	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300810	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300820	TT	431.5	579.6	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7	32	450.1	575.7
	716653	171665340300830																								



EREGLI DEMIR VE ÇELİK FABRİKALARI T.A.Ş.  
OUTSTANDING CAPITAL : 3.591.000.000 TL  
PRODUCTION PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 : 2004 TYPE 3.1

DATE : 16/10/2017  
CERTIFICATE NO : 27612611  
PAGE NO : 13

CUSTOMER : MIRTH STEEL  
ORDER NO : 78603204709  
DIMENSIONS : 9.530 X 2438 X 6096 ( 0.375 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40.21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2 (ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LKX : HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO: 1 NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL TEST										CHEMICAL COMPOSITION, CAST ANALYSIS																
TICKET NO	WEIGHT (MT)	HEAT NO	COIL OR PLATE NO	P.S. OF P.P.	SAM. POS.	TENSILE TEST	YIELD STRENGTH	TENSILE % EL.	BEND TEST	AV. OF 3	Y/T OF HARDNESS	TARGET POSITION	1	2	3	AVR	TEMP °C	HIGH YIELD °C	TEMP °C	C	MN	P	S	SI	AL	CU	NI	V	N	PPM
02370-2644/13.806		716559	716659401004201	TT	453.1	595.3	30													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659402001101	TT	453.3	593.5	34													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659402001201	TT	453.3	593.5	34													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716555	716659402002101	TT	453.1	595.3	30													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659402002201	TT	453.1	595.3	30													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659402003101	TT	453.3	593.5	34													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659402003201	TT	453.3	593.5	34													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659402004101	TT	453.1	595.3	30													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659402004201	TT	453.1	595.3	30													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	45	
		716559	702302275LD101	12	453.1	595.3	30													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659403001101	TT	453.3	593.5	34													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659403001201	TT	453.3	593.5	34													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659403002101	TT	453.1	595.3	30													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659403002201	TT	453.1	595.3	30													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659403003101	TT	453.3	593.5	34													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659403003201	TT	453.3	593.5	34													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659403004101	TT	453.1	595.3	30													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659404001101	TT	453.3	593.5	34													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	
		716559	716659404001201	TT	453.3	593.5	34													0.196	1.206	0.016	0.006	0.185	0.035	0.028	0.045	0.072	46	

THE MANUFACTURER HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF  
EN 10204-21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2 (ERDEMİR 3246) WITH SATISFACTORY RESULTS.



ONE TOP, MIDDLE, END, TRANSVERSE, LONGITUDINAL, P.S. Piece of Slice P.P. Piece of Plate  
ENIS Number (Istanbul Head Office) : 0352-0008-4260-0020 / Trade Registry Number (Istanbul Department) : 30659 / Trade Registry Number (Ereğli Department) : 15747272  
Head Office : Istanbul : Başlıca Mah. Ardiç Sok. No: 6 34745 Alagöz / İSTANBUL - TÜRKİYE

www.erdemir.com.tr

ERDEMİR DEMİR VE ÇELİK FABRİKALARI T.A.Ş.  
OUTSTANDING CAPITAL : 3.500.000.000 TL  
PRODUCTION PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 : 2004 TYPE 3.1

DATE : 18/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 14

CUSTOMER : WIRTH STEEL  
ORDER NO : 78603204709  
DIMENSIONS, mm : 9.530 X 2438 X 8936 ( 0.375 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40.21-13 / ASTM A572-15 300W/350W / GR50 TYPE 2(ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LKX : HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO: 1  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL PROPERTIES										CHEMICAL COMPOSITION, CAST ANALYSIS											
TICKET NO/WEIGHT (MT)	HEAT NO	COIL or PLATE NO	P.S. or P.P.	TENSILE TEST	YIELD STRENGTH	ELONGATION	BEND TEST	AG or BH	Y/T or IN	HARDNESS	IMPACT TEST	AVR TEM	HIGH TEMP	C	MN	P	S	SI	AL	CU	NI	V	N	PPM	
023704264712.740	716659	71665940400210	TT	453.1	595.3	30								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940400220	TT	453.1	595.3	30								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940600110	TT	439.3	583.5	34								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940600120	TT	439.3	583.5	34								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940600210	TT	439.3	583.5	34								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
023704264712.590	716659	71665940600420	TT	453.1	595.3	30								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940700110	TT	439.3	583.5	34								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940700120	TT	439.3	583.5	34								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940700210	TT	453.1	595.3	30								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940700220	TT	453.1	595.3	30								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
023704264712.590	716659	71665940800110	TT	439.3	583.5	34								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940800320	TT	439.3	583.5	34								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940800420	TT	439.3	583.5	34								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940800510	TT	439.3	583.5	34								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	
	716659	71665940800610	TT	439.3	583.5	34								0.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072		46	

WE THE MANUFACTURER HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF EN 10204 : 2004 TYPE 3.1 / ASTM A572-15 300W/350W / GR50 TYPE 2(ERDEMİR 3246) WITH SATISFACTORY RESULTS



NOTE: T Top, M Middle, E End, T Transverse, L Longitudinal, P S.Piece of Plate  
CEASIS Number/Istanbul Head Office: 0352-0026-4250-0020, Trade Registry Number/Istanbul Department: 90659 Trade Registry Number/EAGE Department: 15731/212  
Head Office, Istanbul Barbaros Mah. Ard. 6 Sok. No. 6 34755 Alibeyköy /İSTANBUL - TURKEY



www.erdemir.com.tr

TEST CERTIFICATE

DATE : 18/10/2017  
 CERTIFICATE NO : 71612611  
 PAGE NO : 15

STANDARD & GRADE : 9.530 X 2438 X 6096 ( 0.375 X 96 X 240 INCH )  
: CSA G40-21-13 / ASTM A572-15 300M/350M / GRA50 TYPE

PRODUCT TYPE & DEFINITION: LKX: HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO:1 NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

## PRODUCT INFORMATIONS

## MECHANICAL

TICKET NO	WEIGHT (MT)	HEAT NO	COIL	P.S. OF	PLATE NO	P.P.	TENSILE TEST	BEND OF	Ag	Y/T	HARD	IMPACT TEST, JOULE	HIGH TEMP	CHEMICAL COMPOSITION, CAST ANALYSIS													
														SM	YIELD	TENSILE	%	TEST	VAL.	VAL.	VAL.	VAL.	1	2	3	AVR	TEMP
							STRENGTH	EL.	VAL.	VAL.	VAL.	VAL.	VAL.	VAL.	%	%	%	%	%	%	%	%	%	%	%	PPM	
02704264513.820		716555	716555405002101	TT	433.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716555	716555405002201	TT	433.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559405003101	TT	439.3	583.5	34						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559405003201	TT	439.3	583.5	34						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559405004101	TT	433.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559405004201	TT	433.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559405004301	TT	433.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559405004401	TT	433.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559405004501	TT	433.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559405004601	TT	433.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559405004701	TT	433.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559405004801	TT	433.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
02704268713.740		716559	716559407003101	TT	439.3	583.5	34						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559407003201	TT	439.3	583.5	34						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559407004101	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559407004201	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559408002101	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559408002201	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559408003101	TT	439.3	583.5	34						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559408003201	TT	439.3	583.5	34						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559408004101	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559408004201	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559408004301	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
		716559	716559408004401	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46					
	716559	716559408004501	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408004601	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408004701	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408004801	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408004901	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408005001	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408005101	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408005201	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408005301	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408005401	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408005501	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408005601	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408005701	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408005801	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408005901	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408006001	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408006101	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408006201	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408006301	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408006401	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408006501	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408006601	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408006701	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408006801	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408006901	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408007001	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408007101	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408007201	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408007301	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408007401	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408007501	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408007601	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408007701	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408007801	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.035	0.026	0.045	0.072	46						
	716559	716559408007901	TT	453.1	595.3	30						10.196	1.206	0.016	0.006	0.185	0.0										

WE, THE MANUFACTURER, HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF ASTM A572-15 300W/350W / GRSO TYPE 2 (EN10025-2) WITH SATISFACTORY RESULTS



ATE T. Topi, Manager, E. Eng, T. Travese, S. L. Long, Luciana D. S. Price of S. Price, P. P. Price of P. Price  
 CRISIS Number: Istanbul Head Office: 0352-0005-4250-0020 Trade Registry Number: Istanbul Department  
 Head Office: Istanbul Barbaos Mah. Aiding Sox No 6 33765 Atayehi Istanbul - TURKEY

217141

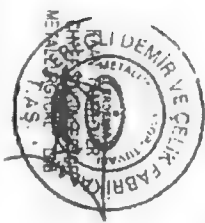
www.ejournals.com

DATE : 18/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 15

LOT NO: 1 NO MERCURY COMPOUNDS NO YELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL PROPERTIES										CHEMICAL COMPOSITION ANALYSIS									
TICKET NO	HEIGHT (IN)	HEAT NO	COIL OF PLATE NO	P.S. P.P.	YIELD STRENGTH N/MM2	TENSILE TEST	BEND OF TEST	HAZARD POSITION	IMPACT TEST	TEMP °C	C %	MN %	P %	S %	SI %	AL %	CU %	NI %	V %	N PPM			
727058	1220	727058	727058-0200210	TT	413.8	567.8	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0200220	TT	413.8	567.8	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0200310	TT	427.6	573.7	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0200320	TT	427.6	573.7	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0200410	TT	413.8	567.8	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0200420	TT	413.8	567.8	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0300110	TT	427.6	573.7	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0300120	TT	427.6	573.7	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0300210	TT	413.8	567.8	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0300220	TT	413.8	567.8	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0300310	TT	427.6	573.7	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0300320	TT	427.6	573.7	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0400310	TT	413.8	567.8	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0400320	TT	427.6	573.7	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0400410	TT	413.8	567.8	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0400420	TT	427.6	573.7	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0400510	TT	413.8	567.8	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			
727058	1220	727058	727058-0400520	TT	427.6	573.7	32			0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076		45			

WE (THE MANUFACTURER) HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC DYEING PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF ASTM A602-19 / ASTM A602-18 TYPE 2 (FEDMIR 3245) WITH SATISFACTORY RESULTS



MOE T-30, M-Midele E-End, T-Transverse, L-Longitudinal, P-S-Piece of Plate  
AGSIS Number/(istanbul Head Office)- 0312-0066-4263-5021; Trade Registry Number/(istanbul Depa-  
tment Office)- Istanbul Zarbates Mah Ardic Sok No: 5 36746 Alapinar ISTANBUL - TURKEY

WWW.2700117.5071

DATE : 10/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 17

www.sidermif.com.br

EN 10204 : 2004 TYPE 3.1

1919: 1919:

**WIRTH STEEL**  
**: 78603204709**

9.530 X

: LKX :HOT ROD

## GRAIN PRACT

## MECHANICAL

[illegible]

WITH SATISFACTORY RESULTS



...from the ...

ERDEMLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş.  
OUTSTANDING CAPITAL : 3.500.000.000 TL  
PRODUCTION PLANT : ERDEMİR

TEST CERTIFICATE  
EN 10204 - 2004 TYPE 3.1

DATE : 18/10/2017  
CERTIFICATE NO : 71612611  
PAGE NO : 19

CUSTOMER : WIRTH STEEL  
ORDER NO : 78603204709  
DIMENSIONS, mm : 9.530 X 2438 X 6095 ( 0.375 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40.21-13 / ASTM A572-15 300M/350M / GR50 TYPE 2(ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LKX : HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO:1 NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL				CHEMICAL COMPOSITION, CAST ANALYSIS													
TICKET NO/WEIGHT (MT)	HEAT NO	COIL CT	PLATE NO	P.S. OF P.P.	TENSILE TEST YIELD STRENGTH N/MM2	TENSILE TEST EL. 50	BEND CT 90° VAL.	AG VAL.	V/T OF HARDNESS	TYPICAL TEST POSITION	HIGH TEMP YIELD N/MM2	C	MN	P	S	SI	AL	CU	NI	V	N
023704284311.530	727058	172705840900110	170230234581010	10	427.6	573.7	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45
	727058	172705840900110	172705840900120	TT	427.6	573.7	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45
	727058	172705840900210	172705840900220	TT	413.8	567.8	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45
	727058	172705840900310	172705840900320	TT	427.6	573.7	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45
	727058	172705840900410	172705840900420	TT	427.6	573.7	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45
	727058	172705840900510	172705840900520	TT	413.8	567.8	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45
	727058	172705841000110	172705841000120	TT	427.6	573.7	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45
	727058	172705841000210	170230234591010	12	413.8	567.8	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45
	727058	172705841000220	172705841000230	TT	413.8	567.8	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45
	727058	172705841000410	172705841000420	TT	413.8	567.8	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45
	727058	172705841100110	172705841100120	TT	427.6	573.7	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45
	727058	172705841100210	172705841100220	TT	413.8	567.8	32					0.195	1.220	0.016	0.006	0.168	0.033	0.019	0.046	0.076	45

WE, THE MANUFACTURER, HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF CSA G40.21-13 / ASTM A572-15 300M/350M / GR50 TYPE 2(ERDEMİR 3246) WITH SATISFACTORY RESULTS.



NOTE: T-TOP Middle-End: T Transverse, L Longitudinal, P-S Piece of Slice, P-P Piece of Plate  
VERİSİS Number/İstanbul Head Of/CSA 0352-0630-4260-6020, Trade Registry Number/İstanbul Department 91659, Trade Registry Number/Erzincan Department 157172  
1132 Office İstanbul Başbakanlık Mah. Arslan Sarı No 6 34746 Alsagun İstanbul TURKEY

www.erdemir.com.tr



ERDEMİR ÇELİK FABRİKASI  
STANDING CAPITAL 3.500.000.000 TL  
PRODUCTION PLANT ERDEMİR

TEST CERTIFICATE  
EN 10204 2004 TYPE 3.1

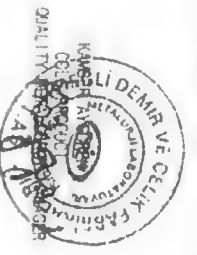
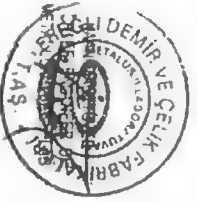
DATE 18/10/2017  
CERTIFICATE NO 71612611  
PAGE NO 20

CUSTOMER : WIRTH STEEL  
ORDER NO : 78603204709  
DIMENSIONS, mm : 9.530 X 2438 X 6096 ( 0.375 X 96 X 240 INCH )  
STANDARD & GRADE : CSA G40.21-13 / ASTM A572-15 300M/350M / GR50 TYPE 2 (ERDEMİR 3246)  
PRODUCT TYPE & DEFINITION : LINK : HOT ROLLED HEAVY PLATE WITH MILL EDGE

LOT NO:1 NO MERCURY COMPOUNDS NO WELD REPAIR  
FULLY KILLED AND FINE GRAIN PRACTICE

PRODUCT INFORMATION				MECHANICAL PROPERTIES										CHEMICAL COMPOSITION, CAST ANALYSIS													
TICKET NO	WEIGHT (MT)	HEAT NO	COIL OR PLATE NO	P.S. OR P.P.	35M POS	TENSILE TEST	YIELD STRENGTH	TENSILE EL.	BEND. TEST	VAL. BH	VAL. F	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n	VAL. n
0237043361	10.390	727056	727056411003101	TT	427.6	573.7	32																				
		727056	727056411003201	TT	427.6	573.7	32																				
		727056	727056411004101	TT	413.8	567.8	32																				
		727056	727056411004201	TT	413.8	567.8	32																				
		716559	716559409001101	TT	439.3	583.5	34																				
		716559	716559409001201	TT	439.3	583.5	34																				
		716559	716559409003101	TT	439.3	583.5	34																				
		716559	716559409003201	TT	439.3	583.5	34																				
		716559	716559409004101	TT	453.1	595.3	30																				
		716559	716559409004201	TT	453.1	595.3	30																				
		727056	7270564110003101	TT	427.6	573.7	32																				
		727056	7270564110003101	TT	413.8	567.8	32																				
		727056	7270564110033201	TT	413.8	567.8	32																				

WE (THE MANUFACTURER) HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF CSA G40.21-13 / ASTM A572-15 300M/350M / GR50 TYPE 2 (ERDEMİR 3246) WITH SATISFACTORY RESULTS



www.erdemir.com.tr

NOTE: T Top Middle E End T Transverse L Longitudinal P S Piece of Slice P P Piece of Plate  
HEADS NUMBER/ISTANBUL: Head Office: 0352-0306-4260-0220 Trade Registry Number/Istanbul Department: 90653, Trade Reg. No. Number/Erdek Department: 15747274  
Head Office: Istanbul, Başkent Mah. Ardic Sok. No: 6 34745 Aşganiye İSTANBUL - TURKEY



ESSAR STEEL ALGOMA INC., 105 West Street, Sault Ste. Marie, Ontario, Canada P6A 7B4

SO No./Item & Date: 8059359 000020 2018/01/09

Shipment No. & Date: 1200010535 2018/01/10

TC No. Date & Time: ESA-456203 2018/01/28 - 21:09:36

Sold to Customer Name and Address:

Ship to Customer Name and Address:

Customer PO NO./Item: G-48538 / 2

LES ACIER TRANSBEC (1997) LTEE

LES ACIER TRANSBEC (1997) LTEE

BOL NO.: 1200010535

BOUL LE CORBUSIER #201-4054

RUE JEAN COUTU 350

Cust Part No.:

LAVAL, Quebec, Canada

VARENNES, Quebec, Canada

Carrier:

H7L 5R2

J3X 1P7

C P RAIL (CAD FUNDS) - FURX 380701

Customer Specification: HR STEEL SHEET HSLA SQ / SS To the Chemistry of Multi Cert CSA G40.21 50W (2013) / CSA G40.21 44W (2013) Top Semi Critical Surface Improved Shape Gauge type MIN - 0/+ 0.0077

Supplementary Instructions: Test Cert 1: mtr@collex.ca Test Cert 2: nathalie.legault@aciertransbec.com

Insp T/R: Test Report For Info Only

Cust Use: STRUCTURAL

ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES.

THIS WILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGOMA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705) 445-4055 FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT. THIS TEST REPORT HAS BEEN GENERATED BY A COMPUTERIZED SYSTEM AND IS VALID WITHOUT A PHYSICAL SIGNATURE.

MEETS EN 10204 3.1

ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ALGOMA.COM

ALL HEATS FULLY KILLED.

HEATS INDICATED WITH (\*) FINE GRAINED.

HEATS INDICATED WITH (+) Made in Canada for NAFTA duty preference and NAFTA marking purposes

Dimensions (T x W x L)

0.3650 " x 48.000 "

Batch No.

XB15027

Heat No.-MS

5511D4-54

Quantity

42,532 LB

Pcs

1

Heat No. (wt%)

5511D4\*

C

0.18

Mn

0.87

P

0.008

S

0.002

Si

0.040

Cr

0.01

Ni

0.01

Cu

0.02

Mo

0.00

Al

0.026

Nb

0.019

V

0.000

Ti

0.001

Tensile Tests

Heat No.

5511D4

Batch No.

DSPC

LAB

ALG

Gauge

0.3650

COND

AR

METH

2

DIR

T

LOC

F

YIELD(KS)

62.0

TENSILE(KS)

78.0

EL SCALE

2"

ELONG(%)

36

Que, V.

KASHIF REHMAN

MANAGER METALLURGICAL SERVICES

**\*\*WARNING\*\*** THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE. (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

# 5141

KAL-1-V

IRA-1754

3 MILLIEST - CERE CONFORME

**Test Date.: 25/May/17**

**Certificate of compliance (Certificat de conformité)** Normes: (ANSI H35.1-1997) & (ASTM B221)

[illegible]

DATE 30/05/17

**VÉRIFIÉ PAR**

**SIGNATURE**

84684



Dart

PO 15456A

## INSPECTION CERTIFICATE № 17.147501

EN 10204 - 3.1

Consigner: KAMENSK URALSKY METALLURGICAL WORKS					JOINT STOCK COMPANY						
5, Zavodskaya Str., Kamensk Uralsky, Sverdlovsk Region, 623405, Russia Tel: +7 (3439) 39 54 17 Fax: +7 (3439) 39 52 49											
Buyer: Thyssen Krupp Materials NA					Quantity, pcs: 8						
Consignee: THYSSEN KRUPP MATERIALS NA					Net Weight, kg: 2388						
P.O. No: PEC-288350					S.O. No: N17441						
Article No: -					Item No: 1.3						
					Package No: 730338						
Description of Goods: Plates					Requirements on the Product:						
Grade of Product:			Dimensions, inch (mm)		Material conforms to quality of alloy: 6061 T651						
			0.75"X60.5"X144.5" 19.050X1536.7X3670.3		Product conforms to all requirements of: ASME SB-209 Section II Part B (2010); ASTM B209-1A; SAE AMS-QQ-A-250/11A (2008); SAE AMS 4827 Rev. N (2014). This product conforms to European Union RoHS Directive 2011/65/EU						
Mechanical Properties											
The Condition of Tested Standards	Lot No.	Heat lot No.	HT Charge No.	Sampling direction	Tensile Strength, Rm / Cyl ksi		Yield Strength, Rp0.2% / Tensile test ksi		Elongation, %		Hardness, HBW
					min	max	min	max	min	max	
Required				LT	42.0	-	35.0	-	9	-	-
	651632	12-5598	-	LT	46.1	46.1	40.9	40.9	11.9	11.9	-
Chemical Composition, %											
Element	Silicon Si	Iron Fe	Copper Cu	Manganese Mn	Magnesium Mg	Chromium Cr	Zinc Zn	Titanium Ti	-	-	-
Required	0.40 - 0.8	0.7	0.15 - 0.40	0.15	0.8 - 1.2	0.04 - 0.35	0.25	0.15	-	-	-
Contents	0.62	0.30	0.19	0.10	1.0	0.06	0.13	0.07	-	-	-
Element	Other Elements								Aluminum Al		
	Each	Total									
Required	-	0.05							0.15 remainder		
Contents	-	0.05							0.15 remainder		
Other Tests											
Method	Macro-structure	Micro-structure	UT	K1c	Electro-conductivity, IACS%	SCF	Contents H2 of metals cm3/100gr	Raw material used for manufacturing supplied products was tested for compliance with international radiation safety regulations during incoming inspection. Russia is country of melt and manufacture.			
Result	-	-	-	-	-	-	0.18				

On behalf:

KUMZ J.S.Co

Date:

12.12.2017

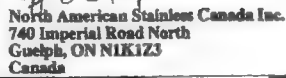
QCB Inspector

Hmylnina N.A.

Inspection Department Engineer

Alekhina N.V.





6870 Highway 42 East  
Ghent, KY 41045-9615  
(502) 347-6000

Red Ratio: 69.6 : 1

NSA Order: IN 0244860 03

Round Bar, Annealed, Cold Draw  
UNS 30300, ASTM A582/12 EN 10204 3.1, ASTM A484/15  
AMS 5640V TYPE 1, QQC-7648 CONDITION A  
SOLUTION ANNEAL TEMP 1900F MIN

COMPLIES W/REQUIREMENTS OF DPAF 252.225-7009 EU DIRECTIVE  
2011/65/EU.ROHS. RAP+ACD+CC. NO WELD REPAIR. MOLTED AND MFG  
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

## Chemical Analysis per ASTM A751/14a

原 欠	新 欠
.3255	.5000

Product Id	1 e i o r	25	.275 KSI	075 KSI	RA %	Elmg % 4D
EX4098 0	R L	156.0	43.00	84.00	98.00	48.00

Technical  
Dept. Mgr.

KRIS LARK

3/22/2017

Industria OLARRA S.A. España  
P.O. Box 1.323-48080 Balmes  
Tel. 944414711 (6)  
Fax. 944414516 (6)

Management Systems  
Certified by  
I.R.Q.A.  
ISO 9001 / SGI 6000360  
ISO 14001 / SGI 1870670

ACEROS INOXIDABLES

OLARRA

Trade Mark - Zeichen des Lieferwerkes  
Aparatado del suministrador

Works Inspector Stamp - Werkssachverständiger  
Sello del Inspector



3

Certificate type - APZ Nach  
Certificado tipo **EN 10204/3.1** Certificate n° - Prof. Nr  
Certificado n° **271387** Date - Datum - Fecha  
**02 - 05 - 2016**

Our order N°  
Werks - Nr **599799** Heat  
N° de Referencia **409862** Your order N°  
Bestell - Nr **C101814** Pedido N°

Steel Grade  
Werkstoff **AISI-303** According to  
Calidad **ASTM A 582 / A 582M-12.**  
Entsprechend  
Corresponde

Shape and Size - Gegenstand  
Form y dimension **ROUND 3/4"** Tolerance - Toleranz  
Tolerancia **ASTM A 484 / TB.7** Bundles  
Bunde **2** Bars  
Stäbe  
Bultos  
Barras Weight  
Gewicht **2549 Lbs**  
Peso

Requirements - Anforderungen - Exigencias  
QQ-S 764B-70. AMD2 COND.A.  
SAE AMS 5640U-07. TYPE I.  
EN 10.088-3.2014.  
1.4305.  
MECAMAX - PLUS

Melting process / Erschmelzungsart / Proceso de Fusión  
**E.A.F. / A.O.D.** Heat treatment / Wärmebehandlung / Tratamiento térmico  
**1050C 4H/Std WATER/WASSER/AGUA**

Solution annealed/Abgeschreckt/Hipertempe-Cold drawn/Gezogen/Estirado-Polished/Poliert/Pulido-

Test results - Ergebnis der Prüfungen - Resultados de los ensayos

Dimension of Specimen Abmessungen des Probestabes Medida de las probetas	Rp0 2% KSI	Rp 1% KSI	Rm KSI	A %L 5D	A %L 4D	Z %	Hardness Harte HBw	Impact test / Kerschschlag / Resiliencia ISO V f. lb
RD. 12.50 mm.	Min						282	
	Max.							
Temperature °C 20	Spec N° Probe Nr Pro N°	1	74	87	103	37	55	229

C	Si	Mn	P	S	Cr	Mo	Ni	Cu	N	Co
Min				0.150	17.00		8.00			
Max	0.150	1.00	2.00	0.200	19.00		10.00	0.70	0.1000	
	0.046	0.39	1.83	0.035	17.65	0.34	8.45	0.53	0.0365	0.15

Visual and dimensional inspection  
Besichtigung und Ausmessung **O.K.** Radioactivity inspection  
Radioaktivitätskontrolle **O.K.** Ant-mixing test  
Spektrsk Verwechslungsor **O.K.** Grain Size  
Korngrösse  
Control visual y dimensional **O.K.** Control de Radioactividad **O.K.** Ant:mezcla  
Tamaño de grano

Remarks - Bemerkungen - Observaciones

Free From Mercury contamination/Quecksilberfreiheit.  
No weld repair.

EDV / EDP  
Acc. EN 10.204  
Marian Tejedo  
Quality Mng.

Works Inspector  
Der Werkssachverständige  
Inspector de fábrica

158864

84686

Dart

PO 15463 N



**ZHENGZHOU MINGTAI INDUSTRY CO., LTD**  
 NO.6 CHANGCHUN ROAD, HIGH AND NEW TECHNOLOGY  
 ZONE, ZHENGZHOU HENAN CHINA  
 TEL: 371-67898611 FAX: 371-67898612

### INSPECTION CERTIFICATE

BUYER:

INVOICE NO.:

CONTRACT NUMBER:

4500849898/4500850574/4500850766

LOADING PORT:

TIANJIN, CHINA

DESTINATION:

TORONTO, CANADA

SHIPPING MARKS:

N/M

DATE:

1/19/18

DESCRIPTION OF GOODS:

ALUMINIUM SHEETS AND COILS ALLOY 3003/H14 AND 5052/H32

P.O. NO.: 4500849898/4500850574/4500850766

DAP TORONTO, CANADA

ACTUAL MILL CHEMICAL UNIT: %												
Alloy No.	Temper	Lot No.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others	Al
STANDARD			0.6	0.7	0.05-0.2	1.0-1.5	-	-	0.1	-	0.15	REMAIN
3003	H14	GFB1712W30158	0.1796	0.5609	0.113	1.1474	0.001	0.0082	0.0034	0.0321	0.15	REMAIN
3003	H14	GFB1801W30033	0.1803	0.5966	0.122	1.1681	0.0085	0.0082	0.0026	0.0341	0.15	REMAIN
3003	H14	GFB1801W30034	0.1718	0.5806	0.1285	1.1684	0.0151	0.007	0.0028	0.0377	0.15	REMAIN
3003	H14	GFD1712W30019	0.1685	0.5761	0.1219	1.1473	0.023	0.0102	0.0047	0.032	0.15	REMAIN
STANDARD			0.25	0.4	0.1	0.1	2.2-2.8	0.15-0.35	0.1	-	0.15	REMAIN
5052	H32	GFB1712W50264	0.0952	0.3164	0.0194	0.0686	2.408	0.1813	0.0217	0.0185	0.15	REMAIN
MECHANICAL PROPERTY TEST REPORTS												
Alloy No.	Temper	Lot No.	SIZE(MM)		SIZE(IN)		Tensile strength		Yield strength		Elongation	
							(MPa)		(MPa)		(%)	
STANDARD							138-179		min118		min 5	
3003	H14	GFB1712W30158	2.997*1524°C		.118*60°C		157		148		14	
3003	H14	GFB1801W30033	3.175*914°C		.125*36°C		153		126		12	
3003	H14	GFB1801W30034	3.175*914*2438		.125*36*96		158		149		12	
3003	H14	GFD1712W30019	4.826*1524*3048		.190*60*120		176		164		15	
STANDARD							214-262		min159		min 7	
5052	H32	GFB1712W50264	1.27*1219°C		.050*48°C		223		161		12	

We certify that 3003H14 material complies with ASTM B209-14, AMS QQA 250/2 standard.

We certify that 5052H32 material complies with ASTM B209-14, AMS QQA-250/8B standard.

MANUFACTURER: ZHENGZHOU MINGTAI INDUSTRY CO., LTD

ZHENGZHOU MINGTAI INDUSTRY CO., LTD  
 郑州明泰实业有限公司

4/22



441684

Dent

PO 15459N

浙江永杰铝业有限公司

Jiangdong Industrial Area, Xiaoshan Economic and Technology Development Zone, Hangzhou, 311222, China

MILL TEST

To: EMPIRE RESOURCES, INC.  
2115 LINWOOD AVENUE, FORT LEE, NEW JERSEY 07024, USA  
TEL: 201.944.2200 X 123/ FAX: 201.944.2226

浙江永杰铝业有限公司  
ZHEJIANG YONGJIE ALUMINUM CO., LTD.

Invoice No.: YJ170421-3  
Date: APR. 21, 2017

Packaging No.	P O No.	Heat Number	Alloy/ Temper	Specification	Actual Thickness	N.W. (MT)	G.W. (MT)	CHEMICAL COMPOSITION, %											MECHANICAL PROPERTIES		
								Si	Fe	Cu	Mn	Mg	Ni	Zn	Ti	Cr	Al	T.S. (KSI)	Yield (KSI)	Elongation (%)	
321-7	R153835	7111703951-1	AA5052 H32	0.125"X48"X96"	0.124	2.159	2.216	0.080	0.300	0.010	0.020	2.530	--	0.006	0.020	0.210	96.82	33.1	26.1	12.0	
322-1	R154099	20464-1-1	AA3003 H14	0.125"X48"XC	0.124	4.581	4.618	0.150	0.500	0.100	1.060	0.010	--	--	0.040	--	98.14	22.3	19.4	12.5	
322-2	R154099	20474-2-2	AA3003 H14	0.125"X48"XC	0.125	4.570	4.606	0.170	0.520	0.090	1.100	0.010	--	0.010	0.030	--	98.07	22.8	19.3	11.0	
322-3	R154099	20473-3-1	AA3003 H14	0.125"X48"XC	0.124	4.560	4.596	0.150	0.490	0.080	1.060	--	--	--	0.040	--	98.18	22.3	18.6	14.5	
322-4	R154099	20464-3-2	AA3003 H14	0.125"X48"XC	0.124	4.317	4.350	0.150	0.500	0.100	1.060	0.010	--	--	0.040	--	98.14	23.1	20.2	12.0	
322-5	R154097	117040163-2	AA3003 H14	0.032"X36"XC	0.032	3.284	3.340	0.090	0.470	0.080	1.100	0.028	--	0.009	0.010	0.005	98.15	23.2	21.5	4.5	
322-6	R153835	1A896-1-1-3	AA5052 H32	0.125"X48"X96"	0.124	2.167	2.222	0.086	0.230	0.001	0.004	2.470	--	0.006	0.020	0.200	96.93	32.1	25.8	10.0	
322-7	R153871	1A896-1-1-4	AA5052 H32	0.125"X48"X96"	0.124	2.092	2.150	0.086	0.230	0.001	0.004	2.470	--	0.006	0.020	0.200	96.93	32.1	25.8	10.0	
323-1	R154099	20462-4-2	AA3003 H14	0.090"X48"XC	0.089	4.412	4.446	0.170	0.500	0.090	1.060	0.010	--	--	0.040	--	98.14	20.9	18.3	10.0	
323-2	R153919	017030962-1	AA5052 H32	0.050"X48"XC	0.049	4.360	4.428	0.100	0.230	0.010	0.010	2.370	--	0.004	0.011	0.170	97.09	32.6	25.7	9.0	
323-3	R154099	20473-1-2	AA3003 H14	0.125"X48"XC	0.124	4.576	4.612	0.150	0.490	0.080	1.060	--	--	--	0.040	--	98.18	22.8	20.2	14.5	
323-4	R153912	1C068-2-1-2	AA5052 H32	0.100"X48"XC	0.100	4.867	4.702	0.070	0.200	0.010	0.010	2.440	--	0.002	0.020	0.190	96.96	31.9	26.1	10.5	
323-5	R153919	1C072-1-4-2	AA5052 H32	0.090"X48"X96"	0.089	1.794	1.852	0.070	0.200	0.004	0.007	2.460	--	0.003	0.010	0.200	96.93	31.8	25.5	12.0	
323-6	R153874	7111704231-1	AA5052 H32	0.080"X48"X96"	0.080	1.799	1.856	0.085	0.240	0.005	0.017	2.400	--	0.014	0.015	0.197	96.98	31.9	26.0	14.5	
323-7	R153911	X111704291-2	AA5052 H32	0.080"X48"X96"	0.080	1.799	1.856	0.085	0.240	0.005	0.017	2.400	--	0.014	0.015	0.197	96.98	31.9	26.0	14.5	
323-8	R153918	1C065-2-5-3	AA5052 H32	0.090"X48"X96"	0.089	2.147	2.200	0.060	0.200	0.006	0.020	2.430	--	0.003	0.020	0.200	96.95	31.8	25.4	11.5	
324-1	R154097	20465-3-1	AA3003 H14	0.032"X48"XC	0.032	4.533	4.602	0.140	0.510	0.090	1.060	0.010	--	--	0.040	--	98.16	21.8	20.0	4.5	
324-2	R154097	20465-3-2	AA3003 H14	0.032"X48"XC	0.032	4.685	4.754	0.140	0.510	0.090	1.060	0.010	--	--	0.040	--	98.16	21.8	20.0	4.5	
324-3	R154098	20461-1-1	AA3003 H14	0.063"X48"XC	0.063	4.531	4.598	0.160	0.510	0.080	1.070	0.010	--	--	0.040	--	98.14	21.0	19.1	10.0	
324-4	R154098	20461-1-2	AA3003 H14	0.063"X48"XC	0.063	4.435	4.504	0.160	0.510	0.080	1.070	0.010	--	--	0.040	--	98.14	21.0	19.1	10.0	
324-5	R153967	1C072-1-4-1	AA5052 H32	0.090"X48"X96"	0.089	1.778	1.830	0.070	0.200	0.004	0.007	2.460	--	0.003	0.010	0.200	96.93	31.8	25.5	12.0	

MATERIAL CONFORMS FOR ALLOY 5052 H32 ALUMINIUM ASSOCIATION STANDARDS, ASTM B209-10, AMS-QQ-A-250/8B AND AMS-4016L AND MATERIAL IN ALLOY 3003, H14 CONFORMS TO ALUMINIUM ASSOCIATION STANDARDS, ASTM B209-10, AMS-QQ-A-250/2 AND AMS 4008K, COUNTRY OF MELT AND MANUFACTURE IN CHINA.

MATERIAL CONFORMS FOR ALLOY 5052, H32 ALUMINUM ASSOCIATION STANDARDS, ASTM B209-10, AMS-QQ-A-250/2 AND AMS 4008K, COUNTRY OF MELT AND MANUFACTURE IN CHINA.

84686

3166

Dart

PO 15460N

(2P)

# KAISER ALUMINUM

FABRICATED PRODUCTS

Best in Class

## CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

Kaiser Aluminum  
Trentwood Works  
Spokane, WA 99215-5108  
(800) 367-2586

CUSTOMER PO NUMBER: C75350-2		WORK PACKAGE:		CUSTOMER PART NUMBER:		SHIP RUN/LOAD: 104192/16		GOV'T CONTRACT NUMBER:	
KAISER ORDER NUMBER: 1253344-2		SHIP DATE: 02/19/2018		ALLOY: 2024		CLAD: BARE		TEMPER: T3	
WEIGHT SHIPPED: 2834 LB		QUANTITY: 64 PCS EST.		TRUCK-BL #: 2072009		GAUGE: 0.0630 IN		PRODUCT DESCRIPTION: HT Flat Sheet	
SHIP TO:						DIAMETER/WIDTH: 48.000 IN		LENGTH: 144.000 IN	
SOLD TO:									

MHU 2194844: LOT 241481B1: 64 pieces 1059081

### Certified Specifications

AMS 4037/RevQ AMS-QQ-A-250/4/RevB ASTM B 209/Rev14 CMMP 019/RevD CMMP 025/RevV

Test Code: 1504

Test Results:

Plant Serial: 4498581  
Kaiser Order Number: 1253344  
Line Item: 2

# KAISER ALUMINUM

FABRICATED PRODUCTS

*Best in Class*

## CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

Kaiser Aluminum  
Trentwood Works  
Spokane, WA 99215-5108  
(800) 367-2586

LOT: 241481B1 CAST: 597 DROP: 82 INGOT: 2

Melted in USA  
(ASTM E8/B557)  
(EN 2002-1)

Tensile: Temper	Dir/#Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
T3	LT / 02 (Min:Max)	65.7 : 65.8 (453 : 454)	43.8 : 44.0 (302 : 303)	18.5 : 18.9

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.07	0.18	4.6	0.62	1.3	0.01	0.12	0.02	0.01	0:00	TOT 0.03

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
2024	MIN 0.00	0.00	3.8	0.30	1.2	0.00	0.00	0.00	0.00	0.00	MAX 0.05
	MAX 0.50	0.50	4.9	0.9	1.8	0.10	0.25	0.15	0.05	0.05	TOT 0.15

Aluminum Remainder

### CERTIFICATION

Kaiser Aluminum, Trentwood Works, is ISO 9001, AS9100, and ISO 14001 certified, and hereby certifies that all material shipped under this order: \* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein. All test equipment and measuring devices are calibrated and certified in accordance applicable specifications. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. Reported elongation values have been measured as elongation at fracture. \* was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content. \* has been thermally processed in compliance with AMS 2772, where applicable. \* is mercury free, within the limits of detection of ASTM E1215 (<1ppm). \* is in compliance with RoHS 2, European Union Directive 2011/65/EU. \* is in compliance with European Chemical Agency, ECHA, REACH regulations, (EC) No 1907/2006, and Kaiser regularly monitors these regulations for updates. \* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act. \* is free of weld repair. \* meets the reporting requirements of EN10204, Type 3.1. Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

JAMES HEMENWAY, LABORATORIES SUPERVISOR



Plant Serial: 4498581

Kaiser Order Number: 1253344

Line Item: 2

1226

Dart

PO-15458 N

101

<b>BOLLINGHAUS®</b> <b>STEEL</b> Bollinghaus Steel, SA DIN EN ISO 9001:2008 TÜV CERT No. 01 100 030458		Abnahmeprüfzeugnis/Mill Test Certificate/Certif. do Qualidade EN 10204:2004 / 3.1				No.: / Nr.: / Nr.: 0000127395									
		Unsere Innere Verweisung / Our Int. Ref / N/ ref int 5600034598 000040				Datum / Date / Data 11.04.2017									
<b>Normen / Standards / Normas</b>															
TYPE 304/UNS S30400 and TYPE 304/LUNS S30403 acc. to ASTM A276/A276M-18a, ASTM A182/A182M-18a, ASTM A193/A193M-18, ASTM A479/A479M-18a, ASTM A320/A320M-18a, ASTM A314-15, ASTM A282-15 Pract. E, AMS QQ-S-763D, AMS 5639H, AMS 5647J, ASME SA479/SA479M, ASME SA278, ASME SA182/182M, ASME SA 193/SA193M, ASME SA320/SA320M, NACE MR0175-2015, execution as per ASTM A484/A484M-16.															
<b>Kunde / Customer / Cliente</b>					<b>Endgültiger Kunde / Final Customer / Cliente Final</b>										
Bestell Nr./Order Nr. / Enc.Nr.					Bestell Nr./ Order Nr./ Enc.Nr.										
<b>Produktgruppe / Product Group / Grupo Produto</b>				<b>Gewicht / Weight / Peso</b>			<b>Bunde / Bundle / Atados</b>								
AISI 304/L FLAT 5/8 X 3"				2.060 lb			02								
<b>Werkstoff-Nr. / Material no. / Qualidade</b> 1.4307				<b>Werkstoff-Normbezeichnung / Material standard grade / Norma do material</b> X 2 CrNi 18-9											
<b>Beschreibung / Description / Descrição</b>															
Stainless steel flat bars, hot rolled, heat treated, straightened and pickled. US DEAR 252.226-7009: MELT SOURCE: United Kingdom / MFG: Portugal.															
<b>Chemische Analyse in % / Chemical composition in % / Análise química em %</b>															
Schmelzen Nr. / Cast no. / Fuso Nm. 56170113		C	0.018	Si	0.300	Mn	1.730	P	0.032	S	0.025	Cr	18.290	Ni	8.090
EAF-AOD		Mo	0.380	Co	0.238	Cu	0.440	N	0.080	Ti	0.003	Nb	0.031	Al	0.007
<b>Proben Nr. / Sample No. / Amostra no.</b> 3060704.01.01		<b>ASTM E399</b>			<b>ASTM A370</b>										
		Kerschlagarbeit Impact Test Resiliência		Streckgrenze Yield point Tensão limite		Dehngrenze 1% point Limite de extensão		Zugfestigkeit Tensile strength Tensão de rotura		Dehnung Elongation Alongamento		Einschnürung Reduction of area Coef. Estricção			
		(Charpy V)		Rp 0.2 %		Rp 1.0%		Rm		A5		Z			
		[ J ]		[ Ksi ]		[ Ksi ]		[ Ksi ]		[ % ]		[ % ]			
		205.0		54.4		58.7		96.0		57.2		59.8		70.3	
<b>Visuelle Kontrolle / Visual inspection / Inspeção visual</b> <input checked="" type="checkbox"/> OK		<b>ASTM E10</b> Härte / Hardness / Dureza 190 [ HB ]			<b>ASTM A262 Practice E</b> Korrosionsbeständigkeit / IC Test Corrosão Intermetálica <input checked="" type="checkbox"/> OK			Wärmebehandlung / Heat treatment / Tratamento térmico Annealed Quenched 1800°F (1050 °C) (water quenched)							
<b>ASTM A484</b> Maßkontrolle / Dimensional inspection / Inspeção dimensional <input checked="" type="checkbox"/> OK		<b>ASTM E112</b> Korngröße / Grain size / Tamanho de grão 9			Werksachverständiger / Quality Control Representative / Inspector de Qualidade Nuno Silva (N-NS)										
Verwechslungsprüfung / Test of identity / Teste de identificação <input checked="" type="checkbox"/> OK		Makroskopische Untersuchung / Macrographic test <input checked="" type="checkbox"/> OK													
<b>Bemerkungen / Remarks / Observações</b>															
Country of origin: Portugal. No weld repair done. Material is free of mercury and radiation contamination.															
Hiermit bestätigen wir, dass das Material der oben genannten Spezifikation entspricht. We confirm that this material meets the specification according to the mentioned standards. Confirmamos que este material respeita as especificações de acordo com as normas referidas.															

## Eaton Steel Bar Company Inspection Certificate 1695551

EN 10204:2004-3.1

Customer	BOL	Ship Date	Customer PO	Item	Customer Item	Item Description
	224436	30-Jan-2018	898839	8785 rev 007	V013302	1-1/4 HR RD 4140ME 18R SBO LPA FG MST

All bundles listed below were produced using steel from Heat 177658 issued by ALTON STEEL and were completed from Eaton Steel Job 819384.

Chemistry	Description	Value	Units	Mechanical	Description	Value	Units
C	Carbon	0.41000	PMGT	BRINELL SURF	Brinell Surface	192.0	BHN
Mn	Manganese	0.30000	PMGT	HARD TENSILE	Description		Units
P	Phosphorus	0.01700	PMGT	AUSTEN TEMP F	Austenitise Temp in Fahrenheit	1600 - 1700	DEGP
S	Sulfur	0.02400	PMGT	MAGNETISM-HT	Magnetism in Gauss	0 - 20	GN
Si	Silicon	0.26000	PMGT	MST-HT	Machine Straighten	Satisfactory	
Ni	Nickel	0.10400	PMGT	TIME AT TEMP	Time at Temperature	Report	
Cr	Chromium	0.84300	PMGT	HT4140MRLPA	Lamellar Pearlite Anneal	CONFORMS	
Mo	Molybdenum	0.16700	PMGT	MILL PROCESSING	Description	Value	Units
Al	Aluminum	0.00300	PMGT	MELT COUNTRY	Melted in Country	USA	
Cu	Copper	0.27000	PMGT	ROLLED COUNTRY	Rollled in Country	USA	
V	Vanadium	0.02700	PMGT	RED RATIO	Reduction Ratio	39.93	RED
Co	Columbium	0.00300	PMGT	ASTM Standard	Description	Value	Units
Ca	Calcium	0.00150	PMGT	A304-05	Carbon & Alloy Steel Bars End Quench Req	CONFORMS	
N	Nitrogen	0.01020	PMGT	A322-13	Steel Bars, Alloy, Standard Grades	CONFORMS	
DI	Ideal Diameter	5.19500	IN	Structure	Description	Value	Units
Cleanliness	Description	Value	Units	PERCENT LP	Percent Lamellar Pearlite	70 - 100	PCT
SAE J422 OX	SAE J422 Oxide Rating	0.0 - 5.0	NUM	MICROSTRUCTURE	Reported Microstructure	BP	
SAE J422 SI	SAE J422 Silicate Rating	0.0 - 5.0	NUM	Tag Number	Qty Units	Length	
MACRO ETCH	Report macro etch results.			022-2188051	3905 LBS	18ft	

DIAMETER	Description	Value	Units
Jominy	Description	Value	Units
J1	1/16 inch from Quenched End	56	HRC
J2	2/16 inch from Quenched End	56	HRC
J3	3/16 inch from Quenched End	56	HRC
J4	4/16 inch from Quenched End	56	HRC
J5	5/16 inch from Quenched End	56	HRC
J6	6/16 inch from Quenched End	56	HRC
J7	7/16 inch from Quenched End	55	HRC
J8	8/16 inch from Quenched End	53	HRC
J9	9/16 inch from Quenched End	52	HRC
J10	10/16 inch from Quenched End	51	HRC
J12	12/16 inch from Quenched End	48	HRC
J14	14/16 inch from Quenched End	47	HRC
J16	16/16 inch from Quenched End	44	HRC
J18	18/16 inch from Quenched End	44	HRC
J20	20/16 inch from Quenched End	43	HRC
J22	22/16 inch from Quenched End	41	HRC
J24	24/16 inch from Quenched End	41	HRC
J28	28/16 inch from Quenched End	39	HRC
J32	32/16 inch from Quenched End	37	HRC

Burble tags with Eaton Steel identifiers reference the steel grade, heat, purchase order number where applicable, part number, product description and quantity. Material produced in accordance with Eaton Steel's Quality Manual QM-00002 Rev 0 dated 11/21/2013.

We hereby certify the above to be in conformance, and a true copy of data represented in company records. This steel was not subject to weld repair or exposed to mercury while in the possession of Eaton Steel.

Created on 30-Jan-2018

Marc Benjamin, Corporate Metallurgist

This document was prepared by means of electronic data processing and is valid without signature.

10221 Capital Avenue, Oak Park, MI 48237 USA

http://www.eatonsteel.com

Tel: 248-398-3434

Fax: 248-398-1434



# CERTIFIED MILL TEST REPORT

Alton Steel Test Lab  
85 C&E Street  
Alton, IL 62002-5011  
(618) 463-4490 EXT 2485  
(618) 463-4491 (fax)

## BILL TO

Eaton Steel Corporation  
10221 Capital Avenue

## SHIP TO

Eaton Steel Corporation  
c/o Super Steel Treating Company  
6227 Route  
Warren, MI 48091-5353

Date	06/22/2017	Customer PO	163349	Specification	SAE 4140 ASTM A29-12
ASI Ord No.	07513	Customer PT.	1003611		
ASI Ord Line Item	1				
Item Description Steel Bar, Hot Rolled, 1.3500, 18" O.D.					
Heat Number	177658				

## CHEMICAL ANALYSIS TEST METHODS ASTM E-415 & E-8019

Heat Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	N	Nb/Co	V	B	Ti	H	Ca
177658	0.41	0.90	0.017	0.024	0.26	0.27	0.104	0.943	0.167	0.010	0.003	0.003	0.027	0.0004	0.0010	0.0102	0.0015

## JOINTLY DETERMINED USING ASTM A-285 CALCULATED FROM CHEMICAL DT

Heat Number	GS	DI	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
177658	7	5.19	56	56	56	56	56	56	56	55	53	52	51	49	47	44	44	43	41

## SPECIAL TEST RESULTS

ASTM E-45 Method A:	ASTM E-41 Method C:	SAE J422	ASTM E-281	Charpy	Hardness
---------------------	---------------------	----------	------------	--------	----------

Heat Number	TA	TB	TC	TD	HA	HB	HC	HD	S	O	S	R	C	NC	MB	SH
177658																

## ADDITIONAL COMMENTS

The material, heat, number, or light marking stamped or engraved on the material shall be the same as that appearing on the test report. The material shall be the same as that appearing on the test report. The material shall be the same as that appearing on the test report. The material shall be the same as that appearing on the test report.

Subscribed and sworn to before me, a Notary Public, in and for the county of Madison, State of Illinois

On \_\_\_\_\_ Day of \_\_\_\_\_

My commission expires \_\_\_\_\_

(Notary Public)

Attest to the production of this report, made to file, is not the same as that appearing on the test report. The material shall be the same as that appearing on the test report. The material shall be the same as that appearing on the test report. The material shall be the same as that appearing on the test report.

Quality Manager: Scott Hall

*Scott Hall*





# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304B0.625X3.000

PO / BATCH NO: 039632/5066327

DATE: APR 28 2018

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 13'  
 QUANTITY INSPECTED: 13'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .625  
 THICKNESS RECEIVED: .625  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	Y N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	Y N	
CORRECT MATERIAL PER M-DRAWING	Y N	Astm A276
CORRECT THICKNESS	Y N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	Y N	Heat # 56170113
CORRECT MATERIAL IDENTIFICATION	Y N	
CORRECT M# ON THE MATERIAL	Y N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____
DATE: <u>11</u> <u>9-89</u> APR 28 2018	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE  
(NOTE: ANSI 303 NOT ACCEPTABLE)

△ SPECIFICATION: ASTM A276 OR ASTM A240  
PART NUMBER: M304B | T.TTT | WWW.WWWW |  
THICK | WIDTH

WHERE "T.TTT" = THICKNESS IN INCHES  
AND "WWW.WWWW" = WIDTH IN INCHES

△ EG. 0.5" x 3.0" BAR = M304B0.500X03.000  
△ EG. 0.5" x 12.0" PLATE = M304B0.500X12.000

RELEASED  
2010-11-30

C	ADDED PLATE TO PURCHASE MATERIAL, ADDED PLATE PART NUMBER, AND EG, CHANGED TITLE FROM "304/316 BAR" TO "304/316 BAR/PLATE"	MB	10.11.25
B	REFORMAT DWG, ADD SPECS (ZN D6-1), REF PAR 03-020A	CP	09.07.15
A	NEW ISSUE	PH	05.08.10
REV	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.11.25		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M304B			
TITLE 304/316 BAR/PLATE			
SCALE NTS			
SHEET 1 OF 1			
REV. C			
COPYRIGHT © 2005 BY DART AEROSPACE LTD			
THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED FOR THE PURPOSES FOR WHICH IT WAS SPECIFICALLY DESIGNED AND NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE LTD.			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 42024135.063  
 DATE: APR 28 2018

PO / BATCH NO: 039632/5066326

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 144P12  
 QUANTITY INSPECTED: 144P12  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .063  
 THICKNESS RECEIVED: .063  
 SHEET SIZE ORDERED: 4x12  
 SHEET SIZE RECEIVED: 4x12

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	QA-A-250/4
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	Heat # 291481B1
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>DAS</u> <u>11</u>	SIGNED OFF BY: _____		
DATE: <u>9-89 APR 28 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

**SPECIFICATION CONTROL DRAWING**

PURCHASE MATERIAL: 2024-T3 ALUMINUM SHEET

SPECIFICATION: QQ-A-250/4 OR AMS-QQ-A-250/4  
OR AMS 4037  
OR ASTM B209

PART NUMBER: M2024T3S | XXX  
THK

WHERE ".XXX" = SHEET THICKNESS (IN INCHES)

EG. 0.063" THICK SHEET = M2024T3S.063

PREFERRED SIZE: .XXX BY 4 FT BY 10 FT

RELEASED  
2009-03-23  
JWP

B	RECOMMAT DWG. ADD ASTM B209 SPEC (2N DE-1), PAR	CP	09 07 07
A	08-020A	DS	01 03 24
REV.	NEW ISSUE	BY	DATE
DESIGN		DART AEROSPACE LTD	
DRAWN		DRAWING NO.	
CHECKED		M2024T3S	
MFG. APPR.		TITLE	
APPROVED		2024-T3 SHEET SPEC	
DE APPR.		REV. B	
DATE	09.07.07	SHEET 1 OF 1	
		SCALE	
		NTS	

COPYRIGHT © 2009 BY DART AEROSPACE LTD  
ALL RIGHTS RESERVED. NO PART OF THIS DRAWING MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE LTD.

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M2092H325.080  
 DATE: APR 28 2019

PO / BATCH NO: 039632/5066325

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 32 P<sup>12</sup>  
 QUANTITY INSPECTED: 32 P<sup>12</sup>  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .080  
 THICKNESS RECEIVED: .080  
 SHEET SIZE ORDERED: 4x8  
 SHEET SIZE RECEIVED: 4x8

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	A67m B209
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	Heat # 7111204231-1
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 11</u> DATE: <u>9-89 APR 28 2019</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 5052-H32 ALUMINUM SHEET

SPECIFICATION: QQ-A-250/8 OR AMS-QQ-A-250/8  
OR AMS 4016  
OR ASTM B209

PART NUMBER: M5052H32S | XXX | THK

WHERE "XXX" = SHEET THICKNESS (IN INCHES)  
EG. 0.063" THICK SHEET = M5052H32.063

PREFERRED SIZE: .XXX BY 4FT BY 8FT

RELEASED  
R 2009-10-30  
AWP

B	REFORMAT DWG. ADD B209 SPEC (ZN DB-1), PAR 08-020A	CP	09 09 26
A	NEW ISSUE	DS	01 06 08
REV	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.09.26		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO.	REV. B
M5052H32S	SHEET 1 OF 1
TITLE	SCALE
5052-H32 SHEET SPEC	NTS

COPYRIGHT © 2001 BY DART AEROSPACE LTD.  
THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE LTD.

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M505211325.050

PO / BATCH NO. 039632/5066324

DATE: APR 28 2018

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 40 Pcs  
 QUANTITY INSPECTED: 40 Pcs  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .050  
 THICKNESS RECEIVED: .050  
 SHEET SIZE ORDERED: 4x10  
 SHEET SIZE RECEIVED: 4x10

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	Y (N)	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	Y (N)	
CORRECT MATERIAL PER M-DRAWING	Y (N)	<u>Astm B209</u>
CORRECT THICKNESS	Y (N)	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	Y (N)	<u>Heat # 64017124150264</u>
CORRECT MATERIAL IDENTIFICATION	Y (N)	
CORRECT M# ON THE MATERIAL	Y (N)	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 11</u> DATE: <u>APR 28 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 5052-H32 ALUMINUM SHEET

SPECIFICATION: QQ-A-250/8 OR AMS-QQ-A-250/8  
OR AMS 4016  
OR ASTM B209

PART NUMBER: M5052H32S-XXX THK

WHERE "XXX" = SHEET THICKNESS (IN INCHES)

EG. 0.063" THICK SHEET = M5052H32.063

PREFERRED SIZE: .XXX BY 4 FT BY 8 FT

RELEASED  
R 2009-10-30  
WSP

B	REFORMAT DWG. ADD B209 SPEC (ZN D8-1), PAR 08-020A	CP	09 09 26
A	NEW ISSUE	DS	01 06 06
REV.	DESCRIPTION	BY	DATE
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.09.26		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M5052H32S			
REV. B SHEET 1 OF 1			
TITLE 5052-H32 SHEET SPEC			
SCALE NTS			
DATE 09.09.26			
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
NOT TO BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS DESIGNED			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M303RO.750  
 DATE: APR 28 2018

PO / BATCH NO: 039632/5066323

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 12'  
 QUANTITY INSPECTED: 12'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.750  
 THICKNESS RECEIVED: 0.750  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORROSION	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	<u>Aston A582</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
PHOTO REQUIRED	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	<u>Heat # 409862</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> <u>11</u> DATE: <u>9-89 APR 28 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 303 SS ROUND BAR  
(NOTE: AISI 304/316 NOT ACCEPTABLE)

SPECIFICATION:

PART NUMBER:

ASTM A582  
M303R0.DDD  
DIA.

WHERE "D.DDD" = DIAMETER IN INCHES  
EG. 0.75" ROUND BAR = M303R0.750

RELEASED  
2010-02-02  
JMP

B	REFORMAT DWG. ADD SPECS (ZN D8-1).	CP	10.01.05
A	NEW ISSUE	DS	01.12.20
REV	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.01.05		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO.	M303R
TITLE	303 ROUND BAR
SCALE	NTS
REV. B	SHEET 1 OF 1

COPYRIGHT © 2001 BY DART AEROSPACE LTD.  
THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED FOR THE PURPOSES SPECIFIED IN THE ORDER ONLY. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M303R1.000  
 DATE: APR 28 2018

PO / BATCH NO: 039632/5066327

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 12  
 QUANTITY INSPECTED: lot 1  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.000  
 THICKNESS RECEIVED: 1.000  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	As per A582
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	Hard 232X
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>DAS 11</u>	SIGNED OFF BY: _____		
DATE: <u>9-89 APR 28 2018</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 303 SS ROUND BAR  
(NOTE: AISI 304/316 NOT ACCEPTABLE)

**△** SPECIFICATION:  
PART NUMBER:

ASTM A582  
M303R0.DDD  
DIA.

WHERE "D DDD" = DIAMETER IN INCHES  
EG. 0.75" ROUND BAR = M303R0.750

RELEASED  
2010-02-02  
JMD

B		REFORMAT DWG. ADD SPECS (2N D8-1).	CP	10.01.05
A		NEW ISSUE	DS	01.12.20
REV.	DESCRIPTION		BY	DATE
DESIGN	DRAWN		DART AEROSPACE LTD	
CHECKED	HAWKESBURY, ONTARIO, CANADA		REV. B	
MFG. APPR.	M303R		SHEET 1 OF 1	
APPROVED	TITLE		SCALE	
DE APPR.	303 ROUND BAR		NTS	
DATE	10.01.05		DART AEROSPACE LTD	

THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD.  
NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING.  
DRAWN BY: JMD

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M60614650.150X06.500 PO / BATCH NO.: 039632/5066321  
 DATE: APR 28 2018

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 12  
 QUANTITY INSPECTED: 12  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .750  
 THICKNESS RECEIVED: .750  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>Astm B209</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	<u>Heat # 12-5586</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N <input type="radio"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N <input type="radio"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 11</u> DATE: <u>9-89 APR 28 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL: 6061-T6/T62/T651 ALUMINUM SHEET OR PLATE

SPECIFICATION:  
QQ-A-250/11 OR AMS-QQ-A-250/11  
OR AMS-4065 OR 4027  
OR ASTM B209

△ PART NUMBER: M6061T6S | XXX | X | W.WWW |  
THK | WIDTH

WHERE "XXX" = THICKNESS (IN INCHES)  
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG. 0.063" THICK SHEET = M6061T6S.063  
EG. 3.5" WIDE BY 0.500" THICK PLATE = M6061T6S.500X3.500

△ PREFERRED SIZE: .XXX BY 4FT BY 8FT FOR SHEET

RELEASED  
2018 MAR 13 4P  
EJW 18-665

APPROVED

C	ADD PLATE AND T651 SPEC	ML	17.12.13
B	REFORMAT DWG, ADD B209 SPEC (2N DB-1), REF PAR DB-020A	CP	08.07.13
A	NEW ISSUE	RF	01.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN	ML		
CHECKED	NO		
MFG. APPR.	JFS		
APPROVED	HS		
DE APPR.	CP		
DATE	17.12.13		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO.	M6061T6S
TITLE	6061-T6 SHEET/PLATE SPEC
REV. C	SHEET 1 OF 1
SCALE	NTS
COPYING OF THIS DRAWING FOR ANY PURPOSE IS PROHIBITED WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND NOT TO BE USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.	



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4140H-R1.250  
 DATE: APR 28 2018

PO / BATCH NO: 039632/5066320

MATERIAL CERT REC'D: YES  
 QUANTITY RECEIVED: 18'  
 QUANTITY INSPECTED: 18'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.250  
 THICKNESS RECEIVED: 1.250  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	Aston A29
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	Heat # 177658
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 11</u> DATE: <u>9-29 APR 28 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



DESIGN #	DRAWN BY #	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. M4140H-R	REV. A SHEET 1 OF 1
DATE 05.02.21		TITLE 4140 ROUND BAR	SCALE 1:1
A	05.02.21	NEW ISSUE	

PURCHASE MATERIAL: AISI 4140H ROUND BAR

PER AISI 4140 OR ASTM A304-02/-A-434-BC /

-A193-03-GRADE-B7 / -A29-03 / -A322-91 OR

UNS # - G41400

MINIMUM ULTIMATE TENSILE STRENGTH = 100 ksi

MINIMUM YIELD TENSILE STRENGTH = 66 ksi

PART NUMBER: M4140H-R | D.DDD | WHERE D.DDD = DIAMETER IN INCHES  
DIA

EG.  $\frac{7}{8}$ " ROUND BAR = M4140H-R0.875

RELEASED  
05.01.75 #

Copyright © 2005 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061-T6R1.000  
 DATE: APR 28 2018

PO / BATCH NO.: 039632/5066319

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 40'  
 QUANTITY INSPECTED: 40'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.000  
 THICKNESS RECEIVED: 1.000  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	N	Asym B221
CORRECT THICKNESS	<input checked="" type="radio"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	N	Heat # 36585
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 11</u> DATE: <u>9-89 APR 28 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR

SPECIFICATION: QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
OR ASTM B211 OR ASTM B221

PART NUMBER: M6061T6R1D.DDD  
DIA.

WHERE "D.DDD" = DIAMETER IN INCHES  
EG. 5/8" ROUND BAR = M6061T6R0.625

RELEASED  
2009-09-09  
MSP

B	REFORMAT DWG. ADD B211 & B221 SPEC (ZN D8-1). REF PAR 08-020A	CP	09.07.13
A	NEW ISSUE	DS	01.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.07.13		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M6061T6R			
TITLE 6061-T6 ROUND BAR			
SHEET 1 OF 1			
REV. B			
SCALE			
NTS			
COPYRIGHT © 2001 BY DART AEROSPACE LTD. THIS DOCUMENT IS UNCLASSIFIED AND NOT FOR PUBLICATION WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

## MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M10185-375  
 DATE: APR 28 2018

PO / BATCH NO.: 039632/5066318

MATERIAL CERT REC'D: Yes  
 QUANTITY RECEIVED: 16 P12  
 QUANTITY INSPECTED: 16 P12  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .375  
 THICKNESS RECEIVED: .390  
 SHEET SIZE ORDERED: 4x4  
 SHEET SIZE RECEIVED: 4x4

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	CSA G-40-21
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	Heat# 716657
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	WEBSTER
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

<b>QC 18 INSPECTION</b>	<b>ENGINEERING SIGNOFF (if required)</b>
INSPECTED BY: <u>DAS 11</u> DATE: <u>9-89 APR 28 2018</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. M1010-S	REV. A SHEET 1 OF 1
DATE 01.06.13		TITLE 1010-1025 SHEET	SCALE NTS
A	01.06.13	NEW ISSUE	
A1	04.03.09 #47	ADD ASTM A1008 AND COLD ROLLED	

PURCHASE MATERIAL:

ASTI 1010-1025 OR ASTM A36 / A366 / A1008  
OR CSA G40-2, 38W / 44W / 50W / 60W / 70W

MINIMUM YIELD TENSILE STRENGTH = 28 KSI

MINIMUM ULTIMATE TENSILE STRENGTH = 42 KSI

COLD ROLLED

PART NUMBER:

M1010-S | TT | GA WHERE TT = GAUGE THICKNESS  
GA

EG. 16 GAUGE STEEL = M1010-S16GA

RELEASED  
01-06-15 #

Copyright © 2001 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.